




# Board of Directors Meeting


October 26, 2021


2:15pm



695 Moores Creek Lane | Charlottesville, Virginia 22902-9016

434.977.2970 

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[www.rivanna.org](http://www.rivanna.org) 

## **BOARD OF DIRECTORS**

### **Regular Meeting of the Board of Directors of the Rivanna Water & Sewer Authority**

**DATE:** **October 26, 2021**

**LOCATION:** **Virtually via ZOOM**

**TIME:** **2:15 p.m.**

### **AGENDA**

**1. *CALL TO ORDER***

**2. *STATEMENT FROM THE CHAIR***

**3. *MINUTES OF PREVIOUS BOARD MEETINGS***

*a. Minutes of Regular Board Meeting on September 28, 2021*

**4. *RECOGNITION***

*a. Resolution of Appreciation for Chip Boyles*

**5. *EXECUTIVE DIRECTOR'S REPORT***

**6. *ITEMS FROM THE PUBLIC***

**7. *RESPONSES TO PUBLIC COMMENTS***

**8. *CONSENT AGENDA***

*a. Staff Report on Finance*

*b. Staff Report on Operations*

*c. Staff Report on Ongoing Projects*

*d. Staff Report on Wholesale Metering*

*e. Staff Drought Monitoring Report*

*f. Construction Contract Award and Capital Improvement Plan Amendment – Airport Road Pump Station Project – Anderson Construction, Inc.*

**9. *OTHER BUSINESS***

- a. Presentation & Public Hearing: Wastewater Rates and Charges for FY 21-22; Lonnie Wood, Director of Finance and Administration*
- b. Presentation: Industrial Waste Pre-Treatment Program; Patricia Defibaugh, Laboratory Manager*
- c. Presentation: Construction Projects Update; Scott Schiller, Engineering Manager*
- d. Demonstration: Remote Camera Capabilities; Lonnie Wood, Director of Finance and Administration*

***10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA***

***11. CLOSED MEETING***

***12. ADJOURNMENT***

## GUIDELINES FOR PUBLIC COMMENT AT VIRTUAL RIVANNA BOARD OF DIRECTORS MEETINGS

If you wish to address the Rivanna Board of Directors during the time allocated for public comment, please use the “chat” feature in the Zoom Meeting interface.

Members of the public who submit comments will be recognized during the specific time designated on the meeting agenda for “Items From The Public.” The comment(s) will be read aloud to the Board of Directors only during this agenda item, so comments must be received prior to the end of this agenda item. The comments will be read by the Rivanna Authority’s Executive Coordinator/Clerk of the Board.

Members of the public requesting to speak will be recognized during the specific time designated on the meeting agenda for “Items From The Public.” Each person will be allowed to speak for up to three minutes. When two or more individuals are present from the same group, it is recommended that the group designate a spokesperson to present its comments to the Board and the designated speaker can ask other members of the group to be recognized by raising their hand or standing. Each spokesperson for a group will be allowed to speak for up to five minutes.

If you would like to submit a comment, please keep in mind that Board of Directors meetings are formal proceedings and all comments are recorded on tape. In order to give all who wish to submit a comment proper respect and courtesy, the Board requests that commenter follow the following guidelines:

- Submit your comment prior to the start of or during the “Items from the Public” section of the Agenda.
- In your comment, state your full name and address and your organizational affiliation if commenting for a group;
- Address your comments to the Board as a whole;
- State your position clearly and succinctly and give facts and data to support your position;
- Be respectful and civil in all interactions at Board meetings;
- The Board will have the opportunity to address public comments after the public comment session has been closed;
- At the request of the Chairman, the Executive Director may address public comments after the session has been closed as well; and
- As appropriate, staff will research questions by the public and respond through a report back to the Board at the next regular meeting of the full Board. It is suggested that commenters who have questions for the Board or staff submit those questions in advance of the meeting to permit the opportunity for some research before the meeting.

The agendas of Board meetings, and supporting materials, are available from the RWSA Administration office upon request or can be viewed on the Rivanna website.

## CALL TO ORDER

## STATEMENT OF CHAIR TO OPEN MEETING

This is Mike Gaffney, Chair of the Rivanna Water and Sewer Authority.

I would like to call the October 26, 2021 meeting of the Board of Directors to order.

Notwithstanding any provision in our Bylaws to the contrary, as permitted under the City of Charlottesville's Continuity of Government Ordinance adopted on March 25, 2020, Albemarle County's Continuity of Government Ordinance adopted on April 15<sup>th</sup>, 2020, and revised effective October 1, 2020 and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, we are holding this meeting by real time electronic means with no board member physically present at a single, central location.

All board members are participating electronically. This meeting is being held pursuant to the second resolution of the City's Continuity of Government Ordinance and Section 6 of the County's revised Continuity of Government Ordinance. All board members will identify themselves and state their physical location by electronic means during the roll call which we will hold next. I note for the record that the public has real time audio-visual access to this meeting over Zoom as provided in the lawfully posted meeting notice and real time audio access over telephone, which is also contained in the notice. The public is always invited to send questions, comments, and suggestions to the Board through Bill Mawyer, the Authority's Executive Director, at any time.

## ROLL CALL:

Mr. Boyles: Please state your full name and location.  
Ms. Hildebrand: Please state your full name and location.  
Mr. O'Connell: Please state your full name and location.  
Dr. Palmer: Please state your full name and location.  
Mr. Richardson: Please state your full name and location.  
Mr. Snook: Please state your full name and location.

And I am Mike Gaffney and I am located at \_\_\_\_\_.

Joining us today electronically are the follow Authority staff members:

Lonnie Wood, Jennifer Whitaker, David Tungate, Patricia Defibaugh, Scott Schiller, John Hull, Deborah Anama, and Katie McIlwee

We are also joined electronically by Carrie Stanton, counsel to the Authority.



**RWSA BOARD OF DIRECTORS**  
**Minutes of Regular Meeting**  
**September 28, 2021**

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, September 28, 2021 at 2:15 p.m. via Zoom.

**Board Members Present:** Mike Gaffney, Jeff Richardson, Lauren Hildebrand, Gary O'Connell, Chip Boyles, Lloyd Snook, Liz Palmer.

**Board Members Absent:** None.

**Rivanna Staff Present:** Bill Mawyer, Katie McIlwee, Lonnie Wood, Jennifer Whitaker, David Tungate, John Hull.

**Attorney(s) Present:** Carrie Stanton.

**1. CALL TO ORDER**

Mr. Gaffney called the September 28, 2021, regular meeting of the Rivanna Water and Sewer Authority to order at 2:52 p.m.

**2. STATEMENT FROM THE CHAIR**

Mr. Gaffney read the following statement aloud:

"This is Mike Gaffney, Chair of the Rivanna Water and Sewer Authority.

"I would like to call the August 24, 2021, meeting of the Board of Directors to order.

"Notwithstanding any provision in our Bylaws to the contrary, as permitted under the City of Charlottesville's Continuity of Government Ordinance adopted on March 25, 2020, Albemarle County's Continuity of Government Ordinance adopted on April 15<sup>th</sup>, 2020, and revised effective October 1, 2020 and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, we are holding this meeting by real-time electronic means with no Board member physically present at a single, central location.

"All Board members are participating electronically. This meeting is being held pursuant to the second resolution of the City's Continuity of Government Ordinance and Section 6 of the County's revised Continuity of Government Ordinance. All Board members will identify themselves and state their physical location by electronic means during the roll call which we will hold next. I note for the record that the public has real time audio-visual access to this meeting over Zoom as provided in the lawfully posted meeting notice and real time audio access over telephone, which is also contained in the notice. The public is always invited to send questions, comments, and suggestions to the Board through Bill Mawyer, the Authority's Executive Director, at any time."

Mr. Gaffney called the roll.

Mr. Chip Boyles, City Manager, stated he was located at 605 E. Main St in Charlottesville, VA.

Ms. Lauren Hildebrand stated she was located at 305 4th Street Northwest in Charlottesville, VA.

Mr. Gary O'Connell stated he was located at 1 Archer Lane, Lynnfield, MA.

Dr. Palmer stated she was located at 2958 Meachum Banks Drive, Charlottesville, VA.

Mr. Jeff Richardson stated he was located at the County Administration Building at 401 McIntire Road in Charlottesville, VA.

Mr. Lloyd Snook stated he was located at 408 East Market Street, Charlottesville, VA.

Mr. Mike Gaffney stated he was located at 3180 Dundee Road in Earlysville, VA.

Mr. Gaffney stated the following Authority staff members were joining the meeting electronically: Bill Mawyer, Lonnie Wood, Jennifer Whitaker, David Tungate, John Hull, and Katie McIlwee.

Mr. Gaffney stated they were also joined electronically by Carrie Stanton, Counsel to the Authority.

### **3. MINUTES OF PREVIOUS BOARD MEETINGS**

#### ***a. Minutes of Regular Board Meeting on August 24, 2021***

**Mr. Richardson moved that the board approve the minutes of the previous board meeting. Dr. Palmer seconded the motion, which passed unanimously (7-0).**

### **4. RECOGNITIONS**

There were none.

### **5. EXECUTIVE DIRECTOR'S REPORT**

Mr. Mawyer stated he wanted to recognize two of the water operators who recently passed their state licensing exams. He stated Michael Hearn received his Class II Operator's license and Mary Rad Morris received her Water Operator Class IV license. He congratulated both for pursuing these licenses. He stated he is also excited and pleased to announce the hiring of a new laboratory manager, Patricia Defibaugh. He stated she has been a Chemist with RWSA for 29 years, is highly qualified, and he is thrilled she was promoted to this position.

Mr. Mawyer stated RWSA is sponsoring flu vaccines for staff at Moores Creek and at the Ivy MUC on October 6. He stated they did exercise the Code Red Alert System that was received through the EOC, which worked well to alert staff of impending danger. He stated in the strategic plan goal for infrastructure and master planning, the Beaver Creek Reservoir Dam Pump Station and Piping Project is moving forward. He stated in accordance with the Natural Resources Conservation Service requirements, there would be a second virtual public meeting on October 6, 2021, at 6 p.m. to provide an update and receive comments from the public on the project.

Mr. Mawyer stated RWSA is moving forward with the Central Water Pipe project, which is going to be located somewhat throughout the center of the City. He stated RWSA recently presented this project to the regional LUEPC committee to make regional partners aware of the project.

Mr. Mawyer stated RWSA is continuing on the Ragged Mountain to Observatory Water Treatment Piping and Pump Station Project, as well as the South Rivanna to Ragged Mountain Reservoir Pipeline project. He stated they are working on getting a few more easements with private owners, UVA, the UVA Foundation, and the Department of Forestry.

Mr. Mawyer stated that drought does not seem to be an issue now, but RWSA continues to optimize water resources by maximizing use of the South Rivanna Reservoir as long as it is overflowing. He stated there was about 45M gallons per day flowing across the dam this morning.

Mr. Mawyer stated he reported in the past that RWSA received a grant from the Virginia Department of Health to install watershed signs, and those have been installed at the Beaver Creek Reservoir. He stated more would be made available for Totier Creek and the North Rivanna River intake, and Water Resources Manager Andrea Bowles did a great job getting the funding and the signs installed.

Mr. Mawyer stated RWSA staff would participate in the United Way Day of Caring's stream cleanup event that will be rescheduled from the rained-out event. He noted that Director of Operations Dave Tungate gave a virtual tour of the Moores Creek facility to a group of students. He stated he is working with DEQ on a PFAS workgroup to establish state levels of allowable PFAS in wastewater. He stated right now the focus is on where the PFAS contribution may be coming from, primarily in industrial discharges throughout the state.

Mr. Mawyer stated RWSA supports the community through youth team sponsorships, and the image presented is one of the soccer teams supported.

Mr. Mawyer stated that based on the current Covid environment, the recommendation is to defer discussion of returning to in-person public Board meetings to a later date.

## **6. ITEMS FROM THE PUBLIC**

Mr. Gaffney opened the meeting to the public.

There were no public comments.

Mr. Gaffney closed Items from the Public.

## **7. RESPONSES TO PUBLIC COMMENT**

There were no public comments.

## **8. CONSENT AGENDA**

*a. Staff Report on Finance*



- b. *Staff Report on Operations*
- c. *Staff Report on Ongoing Projects*
- d. *Staff Report on Wholesale Metering*
- e. *Staff Drought Monitoring Report*
- f. *Resolution to Adopt the Regional TJPDC Natural Hazard Mitigation Plan*
- g. *Authorization of Waiver Extension for UVA Rowing Programs and Rivanna Rowing Club.*

Mr. Mawyer stated Coach Sauer from the UVA Rowing Team was available if anyone has any questions for him.

**Mr. O'Connell moved to approve the Consent Agenda. The motion was seconded by Ms. Hildebrand and passed unanimously (7-0).**

## **9. OTHER BUSINESS**

### *a. Presentation: Wastewater Rates and Charges for FY 21-22: Executive Director, Bill Mawyer*

Mr. Mawyer stated that last month, the Director of Engineering and Maintenance explained the wastewater study that was completed and how the Albemarle County Service Authority and the City have done a great job reducing their wet weather inflow. He stated the City had a 41% reduction, and the ACSA had a 13% reduction through their investment in sewer piping rehabilitation in their areas. In addition, he stated, Rivanna has made about a \$134M investment in sewer facilities over the same timeframe. He stated collectively as per the model, RWSA has projected there is a 30% total system flow reduction versus what was anticipated from 2015. He stated the benefit is that it will delay capacity upgrades to the collection and treatment facilities throughout the system. He stated that will save Rivanna and utility customers the cost of expensive construction projects.

Mr. Mawyer stated in accordance with the 2014 Wastewater Projects Cost Agreement, RWSA was required to do this study every five years to determine how much flow is coming from the City and the ACSA. He stated the results of that study are based on actual metered data used in a model to project what flow would occur in a two-year storm with the total peaking flow in millions of gallons. He stated in 2015, it was projected to have 78 million gallons/day in 2020, but with the current study, that has been reduced to 54.7 million gallons/day. He stated that the debt service costs that Rivanna incurs for the wastewater facilities capital projects included in the 2014 agreement would be funded based on the allocation of actual flow projected by the model.

Mr. Mawyer stated that RWSA has completed that calculation which results in a \$434K adjustment to the City as a reduction, and an increase to the ASCA for FY21-22. He stated the total City charges would be reduced from \$15.9M to \$15.5M, which is a 2.9% decrease. He stated the total ASCA charges would be increased the same \$434K, which will equal a 2.3% increase. He stated Rivanna's budget of \$38.9M will not change.

Mr. Mawyer presented the budget that was adopted in May and noted how the \$434K shift changed the City's charges. Mr. Mawyer stated he is proposing a preliminary rate schedule to make this adjustment in the debt service charges per month to the City and the ACSA. He stated it is being proposed for an effective date of October 1, 2021 and includes a cost adjustment for the months of July, August, and September.

187 Mr. Mawyer stated unless there were questions, the request to the Board is to approve the  
188 preliminary rate resolution and to authorize a public hearing to be held with the Board of  
189 Directors in its next meeting on October 26, 2021.

190  
191 **Mr. Richardson moved to approve the preliminary rate resolution. Dr. Palmer seconded**  
192 **the motion, which passed unanimously (7-0).**

193  
194 Mr. O'Connell stated the plan from the Albemarle County Service Authority is not to change the  
195 retail rate. He stated for ACSA customers, ACSA will absorb the monthly cost increases with  
196 current revenues. He stated they will not change customer rates in the middle of the budget year.

197  
198 *(Joint Session with RSWA)*

199  
200 *b. Presentation: Rivanna's Response to COVID-19: Director of Finance & Administration,*  
201 *Lonnie Wood*

202  
203 Mr. Wood stated that the first news reports of viral pneumonia were coming out of China in late  
204 2019, and by January 2020, the first cases of COVID-19 were showing up in the United States.  
205 He stated in February 2020, the Governor of Virginia declared a State of Emergency related to  
206 COVID-19, which is also when the Rivanna Authorities, along with the City, County, and other  
207 organizations began taking proactive actions to ensure continuity of business. He stated by  
208 March 2020, the World Health Organization declared a global pandemic.

209  
210 Mr. Wood stated for a quick glance at items that affected the Board and the public, the March  
211 and April Board meetings were canceled. He stated during that time, there was effort being made  
212 to find a solution to hold virtual meetings. He stated the Boards held their first offsite Zoom  
213 meeting in May 2020, with the budget introduced on time that month. He stated RSWA was able  
214 to keep all of the solid waste facilities open for business with no interruption to service, but water  
215 and sewer facilities were closed to the public.

216  
217 Mr. Wood stated offices remained open for daily work to staff, with administrative staff moving  
218 to staggered work schedules in March; engineering staff transitioned to work from home or to  
219 utilize a staggered schedule; and in April, the offices were closed after the first positive staff  
220 COVID-19 case was confirmed. He stated during much of that time, policy formulation and  
221 guidance was happening very quickly. He stated there was a COVID response procedure  
222 developed that remains a living document. He stated this addresses the "Stay-at-Home-When-  
223 Sick" policy and created the 50% sick leave sharing policy. This policy also addressed mitigating  
224 risk in the workplace, cleanliness, PPE, and return to work practices, and notice of "Essential  
225 Water and Wastewater Utility Status" letters were issued.

226  
227 Mr. Wood stated regulations were implemented related to the Families First Coronavirus  
228 Response Act (FFCRA), which required all employers to provide up to 80 hours of emergency  
229 paid sick leave. He stated we completed a Workforce COVID-19 Infection Reduction Plan that  
230 addressed PPE, social distancing, and vaccination policy. He stated with the Governor's  
231 declaration to end the pandemic in June 2020, the plan was developed to resume normal work  
232 activities. He stated this relieved some of the mask and meeting rules in house, but also

reemphasized and encouraged obtaining vaccines.

Mr. Wood stated IT-related policies put in place at the time included remote access use policies, telecommuting work agreements with each employee, and work-from-home procedures. He stated while continuing operations, the IT Department had to scramble to get the resources needed to get everyone working from home as soon as possible. He stated this required the purchase of 12 new laptops and procurement of licenses for dual-factor authentication. He stated the business processes never stopped and Rivanna continued to process payments and purchase orders, collect revenue, process payroll, and continue open enrollments; procurements continued and were held outside, and staff utilized Microsoft Teams for communication and project collaboration.

Mr. Wood stated that construction projects occasionally experienced delays if outbreaks were occurring, but most projects stayed on schedule. He stated the Engineering Department developed a very successful contractor COVID protocol to help guide them if there was an outbreak. He stated there were some unavoidable delays related mostly to materials and supply chain shortages, but the Ivy MUC and McIntire recycling facilities maintained normal days and hours.

Mr. Wood stated that Rivanna started developing their FY21 budget in November or December 2019, which was a normal budget schedule and developed with a sizeable increase. However, he stated, around April 2020 it was realized that the budget would need to be adjusted to show a zero-rate increase. He stated that was accomplished by cutting all new staff positions, eliminating all merit increases, and using \$1.7M of reserve funds to plug the revenue gap. He stated they also cut about \$850K in other costs.

Mr. Wood stated by FY22, Rivanna returned to recommending a five-year staffing plan with three new positions approved and reduced reliance on reserves though still using \$500K. He noted that the overall rate increase for the City and County is significant but is also two years' worth of rate increases. He stated the operating and debt services expenses are also noted.

Mr. Wood summarized that all staff returned to the office in June 2020, with most still on staggered schedules; most internal meetings were still being done virtually, along with all external meetings continuing to be held in this manner. He stated in summer and fall of 2020, staff remain with staggered schedules, offices continue to be closed to the public; holidays in November and December still had staggered schedules, but all facilities continued to work under normal business hours and there was no interruption to service.

Mr. Wood stated overall, 12 employees between both authorities tested positive for COVID-19, with one more testing positive this week, for a new total of 13. He stated none of these can be traced back to contraction at the authorities, and all original 12 have since fully recovered.

Mr. Wood stated the federal requirement for emergency sick time ended on December 31, 2020; however, Rivanna kept that in place until June 2021. He stated a summary of the sick time used between January 1, 2020 and June 12, 2021 included the RSWA using 826 hours and the RWSA using 1,806.25 hours. He stated the emergency sick leave was used for illnesses, quarantine time,

279 testing, and vaccinations.  
280

281 Mr. Wood stated the mask requirement in the office for all staff was restored in July 2021. He  
282 stated all new staff were required to get vaccinations starting in August, and the policies are  
283 constantly being updated. He stated employees were surveyed and 84% of RWSA staff and 67%  
284 of RSWA staff have been vaccinated, with a few more to be added once the second shots are  
285 administered.  
286

287 Dr. Palmer asked if the reasons for not getting vaccinated are the same as heard everywhere else.  
288

289 Mr. Wood confirmed that was the case.  
290

291 Mr. Mawyer stated that when Mr. Wood talked about this presentation several months ago, it  
292 was hoped that it would be as a celebration to the end of COVID, but unfortunately it has not  
293 worked out that way. He stated he still wanted Mr. Wood to make this presentation.  
294

295 Mr. Richardson thanked Mr. Wood, Mr. Mawyer, and the entire team. He stated there has  
296 probably not been a need to provide the updates regularly, but the timing of this is good, and Mr.  
297 Wood did a great job addressing it from several different areas, including budget, workforce, and  
298 data. He stated he wants to acknowledge the accomplishment that there was no interruption to  
299 service during that entire time.  
300

301 Mr. Gaffney stated he is very happy to hear that all employees who had contracted COVID are  
302 now healthy and back to work.  
303

#### 304 ***10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA***

305 Mr. Gaffney asked if there were any other items from Board or staff not on the agenda.  
306

307 There were no other items.  
308

#### 309 ***11. CLOSED MEETING – PERSONNEL REVIEW***

310 Ms. Stanton stated each Board would need to move to enter into a joint closed session with the  
311 other Board to discuss confidential performance evaluations, goals and objectives of specific  
312 personnel as permitted by section 2.2.37.11.A1 of the Code of Virginia. She stated each Board  
313 would need to move, second, and vote, and then the closed session can begin.  
314

315 **At 3:27 p.m., Mr. O'Connell moved to join a closed session with RSWA. Mr. Snook**  
316 **seconded the motion, which passed unanimously (7-0).**  
317

318 The Board entered a joint closed session.  
319

320 Ms. McIlwee confirmed that everyone had rejoined the open meeting.  
321

322 Ms. Stanton read a certification that the closed meeting was held in accordance with the law. She  
323 stated the Water and Sewer Authority needs to move that,  
324

325 “Whereas, it has convened a joint closed meeting with the Rivanna Solid Waste Authority on this  
326 date pursuant to an affirmative recorded vote, and in accordance with the provisions of the  
327 Virginia Freedom of Information Act, and  
328 Whereas, section 2.2.37.12.D of the Code of Virginia requires a certification by the Rivanna  
329 Water and Sewer Authority that such closed meeting was conducted in conformity with Virginia  
330 Law, Now, therefore, be it resolved that the Rivanna Water and Sewer Authority certifies by  
331 recorded vote, that to the best of each member’s knowledge, only public business matters  
332 lawfully exempted from the open meeting requirements of the Virginia Freedom of Information  
333 Act, and identified in the motion authorizing the closed meeting where heard, discussed, or  
334 considered in the closed meeting to which the certification or resolution applies.”  
335

336 **At 4:08 p.m., Dr. Palmer moved to approve the resolution as read. Ms. Hildebrand**  
337 **seconded the motion, which passed unanimously (7-0).**  
338

339 Ms. Stanton stated any resolution or motion that was agreed in the closed meeting, in order to be  
340 effective, must be voted on at the public meeting once reconvened.  
341

342 Mr. Gaffney asked for a Board member that will make the motion that the RWSA hereby moves  
343 to approve a three percent merit increase for the Executive Director, Bill Mawyer, to be effective  
344 on July 4, 2021.  
345

346 **Dr. Palmer moved to approve the merit increase as proposed. Mr. O’Connell seconded the**  
347 **motion, which passed unanimously (7-0).**  
348

## 349 ***12. ADJOURNMENT***

350 **At 4:11 p.m., Dr. Palmer moved to adjourn the meeting of the Rivanna Water and Sewer**  
351 **Authority. Mr. Richardson seconded the motion, which passed unanimously (7-0).**  
352  
353



**RIVANNA SOLID WASTE AUTHORITY  
RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**Resolution of Appreciation for Mr. Chip Boyles**

**WHEREAS**, Mr. Boyles has served as a member of the Rivanna Water & Sewer Authority and Rivanna Solid Waste Authority Board of Directors since February of 2021; and

**WHEREAS**, over that same period Mr. Boyles has demonstrated leadership in water and sewer, solid waste and recycling services; and has been a valuable member of the Boards of Directors and a resource to the Authorities; and

**WHEREAS**, Mr. Boyles's understanding of the water, sewer, solid waste and recycling operations of the City of Charlottesville, the Water & Sewer Authority and the Solid Waste Authority has supported a strategic decision-making process that provided benefits to the customers served by the City of Charlottesville as well as the community as a whole; and

**WHEREAS**, the Water & Sewer Authority and Solid Waste Authority Boards of Directors are most grateful for the professional and personal contributions Mr. Boyles has provided to both Authorities and to the community.

**NOW, THEREFORE, BE IT RESOLVED** that the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority Boards of Directors recognize, thank, and commend Mr. Boyles for his distinguished service, efforts, and achievements as a member of the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority, and present this Resolution as a token of esteem, with their best wishes in his future endeavors.

**BE IT FURTHER RESOLVED** that this Resolution be entered upon both the permanent Minutes of the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority.

Michael Gaffney, Chairman  
Jeff Richardson  
Lloyd Snook  
Liz Palmer  
Lauren Hildebrand  
Gary O'Connell  
Lance Stewart



## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: EXECUTIVE DIRECTOR'S REPORT**

**DATE: OCTOBER 26, 2021**

### *STRATEGIC PLAN GOAL: WORKFORCE DEVELOPMENT*

#### **Recognitions**

The professional qualifications of our staff continue to improve and enhance our services. The following employees have successfully completed the requirements for a license from the State:

- Ceara Schwake – Water Operator Class 2
- Jeremy Lawson – Wastewater Operator Class 2
- Duane Houchens – Wastewater Operator Class 1

### *STRATEGIC PLAN GOAL: INFRASTRUCTURE AND MASTER PLANNING*

#### **Beaver Creek Reservoir Dam, Pump Station and Piping Modifications**

Virtual Public Information Meeting #2 was held on October 6, 2021 to provide an update on the project plan and schedule. Approximately 30 members of the public attended.

#### **Central Water Pipe**

Preparation of engineering plans and specifications is underway for this 24 - 30" finished water distribution pipe through the City needed to strengthen the urban drinking water system. A funding allocation agreement is also under discussion.

#### **Ragged Mtn Reservoir to Observatory WTP Water Pipe and Pump Station**

We recently executed an easement agreement with Trinity Presbyterian Church located near Reservoir Road and expect to complete an easement agreement with the Virginia Department of Forestry in November. Discussions continue with one final private owner, UVA, and the UVA Foundation for the remaining pipe and pumping station easements.

#### **S. Rivanna to Ragged Mtn Reservoir Water Pipe**

Preparation of engineering plans and specifications is underway for a 0.25 mile section of this 36" raw water pipe from Birdwood to Old Garth Road. We expect to obtain easement agreements with the last 2 private owners in November. Our efforts continue with the UVA Foundation for the remaining easements.

*STRATEGIC PLAN GOAL: COMMUNICATION AND COLLABORATION*

**Public Outreach**

Ms. Jennifer Whitaker, Director of Engineering and Maintenance, gave a presentation to a UVA Civil Engineering class on “Water Resources and Public Sector Engineering”. Ms. Whitaker also met with a UVA research team to discuss the Meadow Creek watershed.



**MEMORANDUM**

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND  
ADMINISTRATION**

**REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: AUGUST MONTHLY FINANCIAL SUMMARY – FY 2022**

**DATE: OCTOBER 26, 2021**

Urban Water flow and rate revenues are 21% over budget estimates through August, and Urban Wastewater flow and rate revenues are 1% under budget. Revenues and expenses are summarized in the table below:

	<b>Urban Water</b>	<b>Urban Wastewater</b>	<b>Total Other Rate Centers</b>	<b>Total Authority</b>
<b>Operations</b>				
Revenues	\$ 1,712,917	\$ 1,626,477	\$ 388,131	\$ 3,727,525
Expenses	(1,499,516)	(1,548,169)	(385,204)	(3,432,889)
Surplus (deficit)	<u>\$ 213,401</u>	<u>\$ 78,308</u>	<u>\$ 2,927</u>	<u>\$ 294,636</u>
<b>Debt Service</b>				
Revenues	\$ 1,276,657	\$ 1,544,975	\$ 335,130	\$ 3,156,762
Expenses	(1,276,110)	(1,452,648)	(334,935)	(3,063,693)
Surplus (deficit)	<u>\$ 547</u>	<u>\$ 92,327</u>	<u>\$ 195</u>	<u>\$ 93,069</u>
<b>Total</b>				
Revenues	\$ 2,989,574	\$ 3,171,452	\$ 723,261	\$ 6,884,287
Expenses	(2,775,626)	(3,000,817)	(720,139)	(6,496,582)
Surplus (deficit)	<u><u>\$ 213,948</u></u>	<u><u>\$ 170,635</u></u>	<u><u>\$ 3,122</u></u>	<u><u>\$ 387,705</u></u>

When reviewing the Authority as a whole, operating revenues are \$313,000 over budget and operating expenses are \$194,000 over budget.

**A. Annual and Quarterly Transactions**

Some revenues and expenses are over the prorated year-to-date budget due to one-time receipts of revenues for the year and quarterly or annual payments of expenses. These transactions appear to be significant impacts on the budget vs. actual monthly comparisons but will even out as the year progresses. Septage receiving support revenue of \$109,441 is billed to the County annually in July. Annual payments are made for leases, health savings

account contributions, and certain maintenance agreements. Insurance premiums are paid quarterly.

- B. Operations & Maintenance (Scottsville Wastewater – page 7) – Scottsville Wastewater incurred \$14,000 of unbudgeted repairs to the lagoon intake gates.
- C. Other Services and Charges (Urban Wastewater – page 5) - Urban Wastewater is over the prorated budget for Crozet Pump Station odor control costs.
- D. Personnel Costs (Urban Water – page 2) – Urban Water’s salaries were a little higher than budgeted for July and August due to some overlap of salaries for the outgoing water department manager and the interim manager.

#### Attachments

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2021**  
**Fiscal Year 2022**

**Consolidated**  
**Revenues and Expenses Summary**

<i>Budget</i>	<i>Budget</i>	<i>Actual</i>	<i>Budget</i>	<i>Variance</i>
<i>FY 2022</i>	<i>Year-to-Date</i>	<i>Year-to-Date</i>	<i>vs. Actual</i>	<i>Percentage</i>

**Operating Budget vs. Actual**

**Notes**

**Revenues**

Operations Rate Revenue	\$	18,810,555	\$	3,135,093	\$	3,395,616	\$	260,523	8.31%
Lease Revenue		105,000		17,500		12,084		(5,416)	-30.95%
Admin., Maint. & Engineering Revenue		553,000		92,167		92,938		772	0.84%
Other Revenues		540,589		90,098		198,778		108,680	120.62%
Use of Reserves-GAC		316,250		52,708		85,600		32,892	62.40%
Rate Stabilization Reserves		200,000		33,333		33,333		-	0.00%
Interest Allocation		8,200		1,367		2,114		747	54.66%
<b>Total Operating Revenues</b>	<b>\$</b>	<b>20,533,594</b>	<b>\$</b>	<b>3,422,266</b>	<b>\$</b>	<b>3,820,462</b>	<b>\$</b>	<b>398,197</b>	<b>11.64%</b>

**Expenses**

Personnel Cost	<b>D</b>	\$	9,649,988	\$	1,518,321	\$	1,545,164	\$	(26,844)	-1.77%
Professional Services	<b>B</b>		712,050		118,675		45,927		72,748	61.30%
Other Services & Charges	<b>C</b>		3,111,400		518,567		481,161		37,406	7.21%
Communications			191,412		31,902		38,630		(6,728)	-21.09%
Information Technology	<b>A</b>		447,100		74,517		127,926		(53,409)	-71.67%
Supplies			42,160		7,027		5,050		1,976	28.12%
Operations & Maintenance	<b>A</b>		4,864,235		810,706		1,091,568		(280,862)	-34.64%
Equipment Purchases			615,250		102,542		40,400		62,142	60.60%
Depreciation			900,000		150,000		150,000		-	0.00%
Reserve Transfers			-		-		-		-	
<b>Total Operating Expenses</b>		<b>\$</b>	<b>20,533,595</b>	<b>\$</b>	<b>3,332,255</b>	<b>\$</b>	<b>3,525,827</b>	<b>\$</b>	<b>(193,571)</b>	<b>-5.81%</b>
<b>Operating Surplus/(Deficit)</b>		<b>\$</b>	<b>(1)</b>	<b>\$</b>	<b>90,010</b>	<b>\$</b>	<b>294,636</b>			

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$	18,193,960	\$	3,032,327	\$	3,032,330	\$	3	0.00%
Use of Reserves		-		-		-		-	
Septage Receiving Support - County		109,440		18,240		109,441		91,201	500.01%
Buck Mountain Lease Revenue		1,600		267		-		(267)	-100.00%
Trust Fund Interest		33,700		5,617		7,750		2,133	37.97%
Reserve Fund Interest		80,000		13,333		7,242		(6,092)	-45.69%
<b>Total Debt Service Revenues</b>	<b>\$</b>	<b>18,418,700</b>	<b>\$</b>	<b>3,069,783</b>	<b>\$</b>	<b>3,156,762</b>	<b>\$</b>	<b>86,979</b>	<b>2.83%</b>

**Debt Service Costs**

Total Principal & Interest	\$	14,256,077	\$	2,376,013	\$	2,376,013	\$	-	0.00%
Reserve Additions-Interest		80,000		13,333		7,242		6,092	45.69%
Debt Service Ratio Charge		725,000		120,833		120,833		-	0.00%
Reserve Additions-CIP Growth		3,357,634		559,606		559,606		-	0.00%
<b>Total Debt Service Costs</b>	<b>\$</b>	<b>18,418,711</b>	<b>\$</b>	<b>3,069,785</b>	<b>\$</b>	<b>3,063,693</b>	<b>\$</b>	<b>6,092</b>	<b>0.20%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$</b>	<b>(11)</b>	<b>\$</b>	<b>(2)</b>	<b>\$</b>	<b>93,069</b>			

**Summary**

<b>Total Revenues</b>	\$	38,952,294	\$	6,492,049	\$	6,977,225	\$	485,176	7.47%
<b>Total Expenses</b>		38,952,306		6,402,040		6,589,520		(187,480)	-2.93%
<b>Surplus/(Deficit)</b>	<b>\$</b>	<b>(12)</b>	<b>\$</b>	<b>90,009</b>	<b>\$</b>	<b>387,705</b>			

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2021**

**Urban Water Rate Center**  
**Revenues and Expenses Summary**

<i>Budget FY 2022</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 7,971,504	\$ 1,328,584	\$ 1,601,586	\$ 273,002	20.55%
Lease Revenue	75,000	12,500	8,189	(4,311)	-34.49%
Miscellaneous	-	-	-	-	
Use of Reserves-GAC	300,000	50,000	85,600	35,600	71.20%
Rate Stabilization Reserves	100,000	16,667	16,667	-	0.00%
Interest Allocation	3,400	567	875	308	54.42%
<b>Total Operating Revenues</b>	<b>\$ 8,449,904</b>	<b>\$ 1,408,317</b>	<b>\$ 1,712,916</b>	<b>\$ 304,599</b>	<b>21.63%</b>

**Expenses**

Personnel Cost	<b>D</b>	\$ 2,039,157	\$ 322,170	\$ 347,070	\$ (24,900)	-7.73%
Professional Services		279,200	46,533	22,790	23,744	51.02%
Other Services & Charges		734,150	122,358	87,418	34,941	28.56%
Communications		98,670	16,445	18,365	(1,920)	-11.67%
Information Technology		80,500	13,417	23,076	(9,660)	-72.00%
Supplies		5,100	850	730	120	14.17%
Operations & Maintenance	<b>A</b>	2,250,440	375,073	543,250	(168,177)	-44.84%
Equipment Purchases		15,400	2,567	2,567	0	0.00%
Depreciation		300,000	50,000	50,000	-	0.00%
Reserve Transfers		-	-	-	-	
<b>Subtotal Before Allocations</b>		<b>\$ 5,802,617</b>	<b>\$ 949,413</b>	<b>\$ 1,095,264</b>	<b>\$ (145,851)</b>	<b>-15.36%</b>
Allocation of Support Departments		2,647,289	418,649	404,251	14,397	3.44%
<b>Total Operating Expenses</b>		<b>\$ 8,449,906</b>	<b>\$ 1,368,062</b>	<b>\$ 1,499,516</b>	<b>\$ (131,454)</b>	<b>-9.61%</b>
<b>Operating Surplus/(Deficit)</b>		<b>\$ (2)</b>	<b>\$ 40,256</b>	<b>\$ 213,401</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 7,621,725	\$ 1,270,288	\$ 1,270,288	\$ 1	0.00%
Trust Fund Interest	12,000	2,000	2,813	813	40.65%
Reserve Fund Interest	39,300	6,550	3,556	(2,994)	-45.72%
Use of Reserves	-	-	-	-	
Lease Revenue	1,600	267	-	(267)	-100.00%
<b>Total Debt Service Revenues</b>	<b>\$ 7,674,625</b>	<b>\$ 1,279,104</b>	<b>\$ 1,276,657</b>	<b>\$ (2,447)</b>	<b>-0.19%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 5,215,275	\$ 869,213	\$ 869,213	\$ -	0.00%
Reserve Additions-Interest	39,300	6,550	3,556	2,994	45.72%
Debt Service Ratio Charge	400,000	66,667	66,667	-	0.00%
Reserve Additions-CIP Growth	2,020,050	336,675	336,675	-	0.00%
<b>Total Debt Service Costs</b>	<b>\$ 7,674,625</b>	<b>\$ 1,279,104</b>	<b>\$ 1,276,110</b>	<b>\$ 2,994</b>	<b>0.23%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 547</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 16,124,529	\$ 2,687,422	\$ 2,989,573	\$ 302,152	11.24%
<b>Total Expenses</b>	16,124,531	2,647,166	2,775,626	(128,460)	-4.85%
<b>Surplus/(Deficit)</b>	<b>\$ (2)</b>	<b>\$ 40,256</b>	<b>\$ 213,948</b>		
<b>Costs per 1000 Gallons</b>	\$ 2.49		\$ 2.20		
<b>Operating and DS</b>	\$ 4.75		\$ 4.07		
<b>Thousand Gallons Treated</b>	3,397,700	566,283	682,688	116,405	20.56%
<b>or</b>					
<b>Flow (MGD)</b>	9.309		11.011		

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2021**

**Crozet Water Rate Center**  
**Revenues and Expenses Summary**

<i>Budget FY 2022</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 1,058,856	\$ 176,476	\$ 176,476	\$ -	0.00%
Lease Revenues	30,000	5,000	3,895	(1,105)	-22.10%
Use of Reserves-GAC	13,000	2,167	-	(2,167)	-100.00%
Interest Allocation	500	83	123	39	47.11%
<b>Total Operating Revenues</b>	<b>\$ 1,102,356</b>	<b>\$ 183,726</b>	<b>\$ 180,494</b>	<b>\$ (3,232)</b>	<b>-1.76%</b>

**Expenses**

Personnel Cost	\$ 324,463	\$ 51,271	\$ 54,900	\$ (3,629)	-7.08%
Professional Services	15,100	2,517	5,044	(2,528)	-100.44%
Other Services & Charges	104,450	17,408	16,129	1,279	7.35%
Communications	17,530	2,922	3,036	(114)	-3.90%
Information Technology	5,250	875	52	823	94.08%
Supplies	1,500	250	133	117	46.78%
Operations & Maintenance	296,900	49,483	52,653	(3,169)	-6.40%
Equipment Purchases	28,000	4,667	500	4,167	89.29%
Depreciation	60,000	10,000	10,000	-	0.00%
Reserve Transfers	-	-	-	-	-
<b>Subtotal Before Allocations</b>	<b>\$ 853,193</b>	<b>\$ 139,393</b>	<b>\$ 142,447</b>	<b>\$ (3,054)</b>	<b>-2.19%</b>
Allocation of Support Departments	249,161	39,417	38,062	1,355	3.44%
<b>Total Operating Expenses</b>	<b>\$ 1,102,354</b>	<b>\$ 178,810</b>	<b>\$ 180,509</b>	<b>\$ (1,699)</b>	<b>-0.95%</b>
<b>Operating Surplus/(Deficit)</b>	<b>\$ 2</b>	<b>\$ 4,916</b>	<b>\$ (15)</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 1,847,832	\$ 307,972	\$ 307,972	\$ -	0.00%
Trust Fund Interest	2,900	483	651	168	34.68%
Use of Reserves	-	-	-	-	-
Reserve Fund Interest	2,500	417	224	(192)	-46.12%
<b>Total Debt Service Revenues</b>	<b>\$ 1,853,232</b>	<b>\$ 308,872</b>	<b>\$ 308,847</b>	<b>\$ (25)</b>	<b>-0.01%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 1,216,667	\$ 202,778	\$ 202,778	\$ -	0.00%
Reserve Additions-Interest	2,500	417	224	192	46.12%
Reserve Additions-CIP Growth	634,070	105,678	105,678	-	0.00%
<b>Total Debt Service Costs</b>	<b>\$ 1,853,237</b>	<b>\$ 308,873</b>	<b>\$ 308,681</b>	<b>\$ 192</b>	<b>0.06%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ (5)</b>	<b>\$ (1)</b>	<b>\$ 167</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 2,955,588	\$ 492,598	\$ 489,341	\$ (3,257)	-0.66%
<b>Total Expenses</b>	2,955,591	487,683	489,189	(1,506)	-0.31%
<b>Surplus/(Deficit)</b>	<b>\$ (3)</b>	<b>\$ 4,915</b>	<b>\$ 152</b>		
<b>Costs per 1000 Gallons</b>	\$ 5.44		\$ 3.68		
<b>Operating and DS</b>	\$ 14.58		\$ 9.97		
<b>Thousand Gallons Treated</b>	202,697	33,783	49,074	15,291	45.26%
<b>Flow (MGD)</b>	0.555		0.792		

Rivanna Water & Sewer Authority  
Monthly Financial Statements - August 2021

Scottsville Water Rate Center  
Revenues and Expenses Summary

<i>Budget FY 2022</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 514,704	\$ 85,784	\$ 85,784	\$ -	0.00%
Use of Reserves-GAC	3,250	542		(542)	-100.00%
Interest Allocation	200	33	59	26	77.57%
<b>Total Operating Revenues</b>	<b>\$ 518,154</b>	<b>\$ 86,359</b>	<b>\$ 85,843</b>	<b>\$ (516)</b>	<b>-0.60%</b>

**Expenses**

Personnel Cost	\$ 195,695	\$ 30,892	\$ 33,473	\$ (2,581)	-8.35%
Professional Services	2,900	483	1,740	(1,257)	-259.98%
Other Services & Charges	28,100	4,683	2,778	1,905	40.68%
Communications	4,930	822	1,103	(282)	-34.27%
Information Technology	1,250	208	80	128	61.59%
Supplies	770	128	-	128	100.00%
Operations & Maintenance	87,200	14,533	11,172	3,361	23.13%
Equipment Purchases	1,500	250	250	-	0.00%
Depreciation	40,000	6,667	6,667	0	0.00%
Reserve Transfers	-	-	-	-	
<b>Subtotal Before Allocations</b>	<b>\$ 362,345</b>	<b>\$ 58,667</b>	<b>\$ 57,263</b>	<b>\$ 1,404</b>	<b>2.39%</b>
Allocation of Support Departments	155,813	24,684	23,757	927	3.76%
<b>Total Operating Expenses</b>	<b>\$ 518,158</b>	<b>\$ 83,351</b>	<b>\$ 81,020</b>	<b>\$ 2,331</b>	<b>2.80%</b>
<b>Operating Surplus/(Deficit)</b>	<b>\$ (4)</b>	<b>\$ 3,008</b>	<b>\$ 4,823</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 138,888	\$ 23,148	\$ 23,148	\$ -	0.00%
Trust Fund Interest	300	50	70	20	39.48%
Reserve Fund Interest	1,200	200	109	(91)	-45.69%
<b>Total Debt Service Revenues</b>	<b>\$ 140,388</b>	<b>\$ 23,398</b>	<b>\$ 23,326</b>	<b>\$ (72)</b>	<b>-0.31%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 125,892	\$ 20,982	\$ 20,982	\$ -	0.00%
Reserve Additions-Interest	1,200	200	109	91	
Reserve Additions-CIP Growth	13,299	2,217	2,217	-	
<b>Total Debt Service Costs</b>	<b>\$ 140,391</b>	<b>\$ 23,399</b>	<b>\$ 23,307</b>	<b>\$ 91</b>	<b>0.39%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ (3)</b>	<b>\$ (1)</b>	<b>\$ 19</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 658,542	\$ 109,757	\$ 109,170	\$ (587)	-0.54%
<b>Total Expenses</b>	658,549	106,750	104,327	2,423	2.27%
<b>Surplus/(Deficit)</b>	<b>\$ (7)</b>	<b>\$ 3,007</b>	<b>\$ 4,843</b>		
<b>Costs per 1000 Gallons</b>	\$ 30.07		\$ 23.69		
<b>Operating and DS</b>	\$ 38.22		\$ 30.50		
<b>Thousand Gallons Treated</b>	17,230	2,872	3,420	548	19.09%
<b>or</b>					
<b>Flow (MGD)</b>	0.047		0.055		

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2021**

**Urban Wastewater Rate Center**  
**Revenues and Expenses Summary**

<b>Budget FY 2022</b>	<b>Budget Year-to-Date</b>	<b>Actual Year-to-Date</b>	<b>Budget vs. Actual</b>	<b>Variance Percentage</b>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 8,535,195	\$ 1,422,533	\$ 1,410,054	\$ (12,479)	-0.88%
Stone Robinson WWTP	20,589	3,432	2,824	(608)	-17.70%
Septage Acceptance	475,000	79,167	91,479	12,312	15.55%
Nutrient Credits	45,000	7,500	104,475	96,975	1293.00%
Rate Stabilization Reserve	100,000	16,667	16,667	-	0.00%
Miscellaneous Revenue	-	-	-	-	
Interest Allocation	3,800	633	979	345	54.52%
<b>Total Operating Revenues</b>	<b>\$ 9,179,584</b>	<b>\$ 1,529,931</b>	<b>\$ 1,626,477</b>	<b>\$ 96,546</b>	<b>6.31%</b>

**Expenses**

Personnel Cost	\$ 1,289,471	\$ 203,221	\$ 212,549	\$ (9,328)	-4.59%
Professional Services	208,500	34,750	9,881	24,869	71.57%
Other Services & Charges	2,011,700	335,283	349,906	(14,622)	-4.36%
Communications	9,800	1,633	3,081	(1,448)	-88.65%
Information Technology	56,500	9,417	19,114	(9,698)	-102.98%
Supplies	1,200	200	447	(247)	-123.57%
Operations & Maintenance	1,672,520	278,753	382,929	(104,176)	-37.37%
Equipment Purchases	294,250	49,042	8,333	40,708	83.01%
Depreciation	470,000	78,333	78,333	(0)	0.00%
Reserve Transfers	-	-	-	-	
<b>Subtotal Before Allocations</b>	<b>\$ 6,013,941</b>	<b>\$ 990,632</b>	<b>\$ 1,064,574</b>	<b>\$ (73,942)</b>	<b>-7.46%</b>
Allocation of Support Departments	3,165,643	501,061	483,595	17,466	3.49%
<b>Total Operating Expenses</b>	<b>\$ 9,179,584</b>	<b>\$ 1,491,694</b>	<b>\$ 1,548,169</b>	<b>\$ (56,476)</b>	<b>-3.79%</b>
<b>Operating Surplus/(Deficit)</b>	<b>\$ (0)</b>	<b>\$ 38,237</b>	<b>\$ 78,307</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 8,568,221	\$ 1,428,037	\$ 1,428,038	\$ 1	0.00%
Septage Receiving Support - County	109,440	18,240	109,441	91,201	500.01%
Trust Fund Interest	18,500	3,083	4,208	1,125	36.48%
Use of Reserves	-	-	-	-	
Reserve Fund Interest	36,300	6,050	3,288	(2,762)	-45.66%
<b>Total Debt Service Revenues</b>	<b>\$ 8,732,461</b>	<b>\$ 1,455,410</b>	<b>\$ 1,544,975</b>	<b>\$ 89,565</b>	<b>6.15%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 7,689,212	\$ 1,281,535	\$ 1,281,535	\$ -	0.00%
Reserve Additions-Interest	36,300	6,050	3,288	2,762	45.66%
Debt Service Ratio Charge	325,000	54,167	54,167	-	0.00%
Reserve Additions-CIP Growth	681,950	113,658	113,658	-	0.00%
<b>Total Debt Service Costs</b>	<b>\$ 8,732,462</b>	<b>\$ 1,455,410</b>	<b>\$ 1,452,648</b>	<b>\$ 2,762</b>	<b>0.19%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ (1)</b>	<b>\$ (0)</b>	<b>\$ 92,327</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 17,912,045	\$ 2,985,341	\$ 3,171,451	\$ 186,111	6.23%
<b>Total Expenses</b>	17,912,046	2,947,104	3,000,817	(53,713)	-1.82%
<b>Surplus/(Deficit)</b>	<b>\$ (1)</b>	<b>\$ 38,237</b>	<b>\$ 170,634</b>		
<b>Costs per 1000 Gallons</b>	\$ 2.71		\$ 2.76		
<b>Operating and DS</b>	\$ 5.28		\$ 5.36		
<b>Thousand Gallons Treated</b>	3,390,400	565,067	560,212	(4,855)	-0.86%
<b>or</b>					
<b>Flow (MGD)</b>	9.289		9.036		

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2021**

**Glenmore Wastewater Rate Center**  
**Revenues and Expenses Summary**

<i>Budget FY 2022</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 404,028	\$ 67,338	\$ 67,338	\$ -	0.00%
Rate Stabilization Reserve	-	-	-	-	
Interest Allocation	200	33	44	11	33.20%
<b>Total Operating Revenues</b>	<b>\$ 404,228</b>	<b>\$ 67,371</b>	<b>\$ 67,382</b>	<b>\$ 11</b>	<b>0.02%</b>

**Expenses**

Personnel Cost	\$ 94,885	\$ 14,956	\$ 15,595	\$ (640)	-4.28%
Professional Services	12,900	2,150	-	2,150	
Other Services & Charges	34,300	5,717	3,333	2,383	41.69%
Communications	3,130	522	681	(160)	-30.59%
Information Technology	2,000	333	-	333	100.00%
Supplies	-	-	69	(69)	
Operations & Maintenance	121,650	20,275	13,401	6,874	33.90%
Equipment Purchases	3,800	633	633	(0)	0.00%
Depreciation	10,000	1,667	1,667	0	0.00%
<b>Subtotal Before Allocations</b>	<b>\$ 282,665</b>	<b>\$ 46,252</b>	<b>\$ 35,380</b>	<b>\$ 10,872</b>	<b>23.51%</b>
Allocation of Support Departments	121,563	19,289	18,493	797	4.13%
<b>Total Operating Expenses</b>	<b>\$ 404,229</b>	<b>\$ 65,542</b>	<b>\$ 53,873</b>	<b>\$ 11,669</b>	<b>17.80%</b>
<b>Operating Surplus/(Deficit)</b>	<b>\$ (1)</b>	<b>\$ 1,830</b>	<b>\$ 13,509</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 7,412	\$ 1,235	\$ 1,236	\$ 1	0.05%
Trust Fund Interest	-	-	-	-	
Reserve Fund Interest	200	33	22	(12)	-34.84%
<b>Total Debt Service Revenues</b>	<b>\$ 7,612</b>	<b>\$ 1,269</b>	<b>\$ 1,258</b>	<b>\$ 1</b>	<b>0.05%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 1,578	\$ 263	\$ 263	\$ -	0.00%
Reserve Additions-CIP Growth	5,834	972	972	-	0.00%
Reserve Additions-Interest	200	33	22	12	34.84%
<b>Total Debt Service Costs</b>	<b>\$ 7,612</b>	<b>\$ 1,269</b>	<b>\$ 1,257</b>	<b>\$ 12</b>	<b>0.92%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 411,840	\$ 68,640	\$ 68,640	\$ 0	0.00%
<b>Total Expenses</b>	411,841	66,810	55,130	11,680	17.48%
<b>Surplus/(Deficit)</b>	<b>\$ (1)</b>	<b>\$ 1,830</b>	<b>\$ 13,510</b>		
<b>Costs per 1000 Gallons</b>	\$ 9.76		\$ 9.62		
<b>Operating and DS</b>	\$ 9.95		\$ 9.84		
<b>Thousand Gallons Treated or Flow (MGD)</b>	41,401	6,900	5,601	(1,299)	-18.83%
	0.113		0.090		



Rivanna Water & Sewer Authority  
Monthly Financial Statements - August 2021

**Scottsville Wastewater Rate Center**  
**Revenues and Expenses Summary**

<i>Budget FY 2022</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 326,268	\$ 54,378	\$ 54,378	\$ -	0.00%
Interest Allocation	100	17	34	17	102.80%
<b>Total Operating Revenues</b>	<b>\$ 326,368</b>	<b>\$ 54,395</b>	<b>\$ 54,412</b>	<b>\$ 17</b>	<b>0.03%</b>

**Expenses**

Personnel Cost	\$ 94,875	\$ 14,954	\$ 15,595	\$ (641)	-4.29%
Professional Services	10,250	1,708	361	1,347	78.86%
Other Services & Charges	21,800	3,633	3,417	216	5.95%
Communications	3,400	567	821	(254)	-44.79%
Information Technology	1,500	250	-	250	100.00%
Supplies	-	-	-	-	
Operations & Maintenance	58,100	9,683	28,499	(18,816)	-194.31%
Equipment Purchases	3,800	633	633	(0)	0.00%
Depreciation	20,000	3,333	3,333	(0)	0.00%
<b>Subtotal Before Allocations</b>	<b>\$ 213,725</b>	<b>\$ 34,762</b>	<b>\$ 52,660</b>	<b>\$ (17,897)</b>	<b>-51.48%</b>
Allocation of Support Departments	112,640	17,868	17,142	725	4.06%
<b>Total Operating Expenses</b>	<b>\$ 326,365</b>	<b>\$ 52,630</b>	<b>\$ 69,802</b>	<b>\$ (17,172)</b>	<b>-32.63%</b>
<b>Operating Surplus/(Deficit)</b>	<b>\$ 3</b>	<b>\$ 1,765</b>	<b>\$ (15,390)</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 9,882	\$ 1,647	\$ 1,648	\$ 1	0.06%
Trust Fund Interest	-	-	8	8	
Reserve Fund Interest	500	83	43	(40)	-47.85%
<b>Total Debt Service Revenues</b>	<b>\$ 10,382</b>	<b>\$ 1,730</b>	<b>\$ 1,699</b>	<b>\$ (31)</b>	<b>-1.80%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 7,453	\$ 1,242	\$ 1,242	\$ -	0.00%
Reserve Additions-Interest	500	83	43	40	47.85%
Estimated New Principal & Interest	2,431	405	405	-	0.00%
<b>Total Debt Service Costs</b>	<b>\$ 10,384</b>	<b>\$ 1,731</b>	<b>\$ 1,691</b>	<b>\$ 40</b>	<b>2.30%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ (2)</b>	<b>\$ (0)</b>	<b>\$ 8</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 336,750	\$ 56,125	\$ 56,111	\$ (14)	-0.02%
<b>Total Expenses</b>	336,749	54,361	71,493	(17,132)	-31.52%
<b>Surplus/(Deficit)</b>	<b>\$ 1</b>	<b>\$ 1,764</b>	<b>\$ (15,382)</b>		
<b>Costs per 1000 Gallons</b>	\$ 13.80		\$ 25.73		
<b>Operating and DS</b>	\$ 14.24		\$ 26.35		
<b>Thousand Gallons Treated</b>	23,643	3,941	2,713	(1,228)	-31.15%
<b>or</b>					
<b>Flow (MGD)</b>	0.065		0.044		

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2021**

**Administration**

<i>Budget FY 2022</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Payment for Services SWA	\$ 551,000	\$ 91,833	\$ 92,334	\$ 501	0.55%
Miscellaneous Revenue	2,000	333	604	271	81.26%
<b>Total Operating Revenues</b>	<b>\$ 553,000</b>	<b>\$ 92,167</b>	<b>\$ 92,938</b>	<b>\$ 772</b>	<b>0.84%</b>

**Expenses**

Personnel Cost	\$ 2,177,998	\$ 341,572	\$ 335,526	\$ 6,046	1.77%
Professional Services	163,200	27,200	5,206	21,994	80.86%
Other Services & Charges	86,200	14,367	12,194	2,173	15.12%
Communications	21,000	3,500	3,046	454	12.96%
Information Technology	171,900	28,650	62,288	(33,638)	-117.41%
Supplies	21,500	3,583	2,501	1,082	30.19%
Operations & Maintenance	68,600	11,433	7,231	4,203	36.76%
Equipment Purchases	25,200	4,200	2,533	1,667	39.68%
Depreciation	-	-	-	-	
<b>Total Operating Expenses</b>	<b>\$ 2,735,598</b>	<b>\$ 434,505</b>	<b>\$ 430,525</b>	<b>\$ 3,980</b>	<b>0.92%</b>

**Department Summary**

<b>Net Costs Allocable to Rate Centers</b>		<b>\$ (2,182,598)</b>	<b>\$ (342,338)</b>	<b>\$ (337,587)</b>	<b>\$ (4,751)</b>	<b>1.39%</b>
<b><u>Allocations to the Rate Centers</u></b>						
Urban Water	44.00%	\$ 960,343	\$ 150,629	\$ 148,538	\$ 2,090	
Crozet Water	4.00%	\$ 87,304	\$ 13,694	\$ 13,503	\$ 190	
Scottsville Water	2.00%	\$ 43,652	\$ 6,847	\$ 6,752	\$ 95	
Urban Wastewater	48.00%	\$ 1,047,647	\$ 164,322	\$ 162,042	\$ 2,281	
Glenmore Wastewater	1.00%	\$ 21,826	\$ 3,423	\$ 3,376	\$ 48	
Scottsville Wastewater	1.00%	\$ 21,826	\$ 3,423	\$ 3,376	\$ 48	
	100.00%	<b>\$ 2,182,598</b>	<b>\$ 342,338</b>	<b>\$ 337,587</b>	<b>\$ 4,751</b>	

Rivanna Water & Sewer Authority  
Monthly Financial Statements - August 2021

**Maintenance**

<i>Budget FY 2022</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Payment for Services SWA  
Miscellaneous Revenue

*Total Operating Revenues*

\$ -	\$ -	\$ -	\$ -	-
\$ -	\$ -	\$ -	\$ -	-
<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-</b>

**Expenses**

Personnel Cost  
Professional Services  
Other Services & Charges  
Communications  
Information Technology  
Supplies  
Operations & Maintenance  
Equipment Purchases  
Depreciation

*Total Operating Expenses*

\$ 1,398,597	\$ 219,966	\$ 225,570	\$ (5,604)	-2.55%
-	-	-	-	-
61,200	10,200	2,168	8,032	78.74%
15,730	2,622	4,844	(2,222)	-84.76%
9,500	1,583	86	1,498	94.59%
2,000	333	-	333	100.00%
89,600	14,933	16,299	(1,366)	-9.15%
208,100	34,683	21,083	13,600	39.21%
-	-	-	-	-
<b>\$ 1,784,727</b>	<b>\$ 284,321</b>	<b>\$ 270,050</b>	<b>\$ 14,271</b>	<b>5.02%</b>

**Department Summary**

**Net Costs Allocable to Rate Centers**

<b>\$ (1,784,727)</b>	<b>\$ (284,321)</b>	<b>\$ (270,050)</b>	<b>\$ (14,271)</b>	<b>5.02%</b>
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**Allocations to the Rate Centers**

Urban Water	30.00%	\$ 535,418	\$ 85,296	\$ 81,015	\$ 4,281
Crozet Water	3.50%	62,465	9,951	9,452	499
Scottsville Water	3.50%	62,465	9,951	9,452	499
Urban Wastewater	56.50%	1,008,371	160,641	152,578	8,063
Glenmore Wastewater	3.50%	62,465	9,951	9,452	499
Scottsville Wastewater	3.00%	53,542	8,530	8,102	428
	100.00%	<b>\$ 1,784,727</b>	<b>\$ 284,321</b>	<b>\$ 270,050</b>	<b>\$ 14,271</b>

Rivanna Water & Sewer Authority  
Monthly Financial Statements - August 2021

Laboratory

Budget FY 2022	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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**Operating Budget vs. Actual**

Notes

**Revenues**

N/A

**Expenses**

Personnel Cost	\$ 411,037	\$ 64,554	\$ 66,840	\$ (2,286)	-3.54%
Professional Services	-	-	-	-	
Other Services & Charges	7,900	1,317	1,226	91	6.92%
Communications	1,300	217	107	109	
Information Technology	200	33	180	(147)	-440.00%
Supplies	1,300	217	297	(80)	-36.86%
Operations & Maintenance	120,590	20,098	24,517	(4,418)	-21.98%
Equipment Purchases	1,700	283	283	(0)	0.00%
Depreciation	-	-	-	-	
<b>Total Operating Expenses</b>	<b>\$ 544,027</b>	<b>\$ 86,719</b>	<b>\$ 93,449</b>	<b>\$ (6,730)</b>	<b>-7.76%</b>

**Department Summary**

<b>Net Costs Allocable to Rate Centers</b>		<b>\$ (544,027)</b>	<b>\$ (86,719)</b>	<b>\$ (93,449)</b>	<b>\$ 6,730</b>	<b>-7.76%</b>
<b><u>Allocations to the Rate Centers</u></b>						
Urban Water	44.00%	\$ 239,372	\$ 38,156	\$ 41,118	\$ (2,961)	
Crozet Water	4.00%	21,761	3,469	3,738	(269)	
Scottsville Water	2.00%	10,881	1,734	1,869	(135)	
Urban Wastewater	47.00%	255,693	40,758	43,921	(3,163)	
Glenmore Wastewater	1.50%	8,160	1,301	1,402	(101)	
Scottsville Wastewater	1.50%	8,160	1,301	1,402	(101)	
	100.00%	<b>\$ 544,027</b>	<b>\$ 86,719</b>	<b>\$ 93,449</b>	<b>\$ (6,730)</b>	

Rivanna Water & Sewer Authority  
Monthly Financial Statements - August 2021

**Engineering**

<i>Budget FY 2022</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Payment for Services SWA

*Total Operating Revenues*

\$ -	\$ -	\$ -	\$ -	-
<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-</b>

**Expenses**

Personnel Cost

Professional Services

Other Services &amp; Charges

Communications

Information Technology

Supplies

Operations &amp; Maintenance

Equipment Purchases

Depreciation &amp; Capital Reserve Transfers

*Total Operating Expenses*

\$ 1,623,810	\$ 254,765	\$ 238,046	\$ 16,718	6.56%
20,000	3,333	905	2,428	72.85%
21,600	3,600	2,592	1,008	28.00%
15,922	2,654	3,546	(892)	-33.63%
118,500	19,750	23,050	(3,300)	-16.71%
8,790	1,465	874	591	40.37%
98,635	16,439	11,618	4,822	29.33%
33,500	5,583	3,583	2,000	35.82%
-	-	-	-	-
<b>\$ 1,940,757</b>	<b>\$ 307,589</b>	<b>\$ 284,214</b>	<b>\$ 23,376</b>	<b>7.60%</b>

**Department Summary**

Net Costs Allocable to Rate Centers

\$ (1,940,757)	\$ (307,589)	\$ (284,214)	\$ (23,376)	7.60%
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**Allocations to the Rate Centers**

Urban Water

47.00%

\$ 912,156	\$ 144,567	\$ 133,580	\$ 10,987
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Crozet Water

4.00%

\$ 77,630	\$ 12,304	\$ 11,369	\$ 935
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Scottsville Water

2.00%

\$ 38,815	\$ 6,152	\$ 5,684	\$ 468
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Urban Wastewater

44.00%

\$ 853,933	\$ 135,339	\$ 125,054	\$ 10,285
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Glenmore Wastewater

1.50%

\$ 29,111	\$ 4,614	\$ 4,263	\$ 351
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Scottsville Wastewater

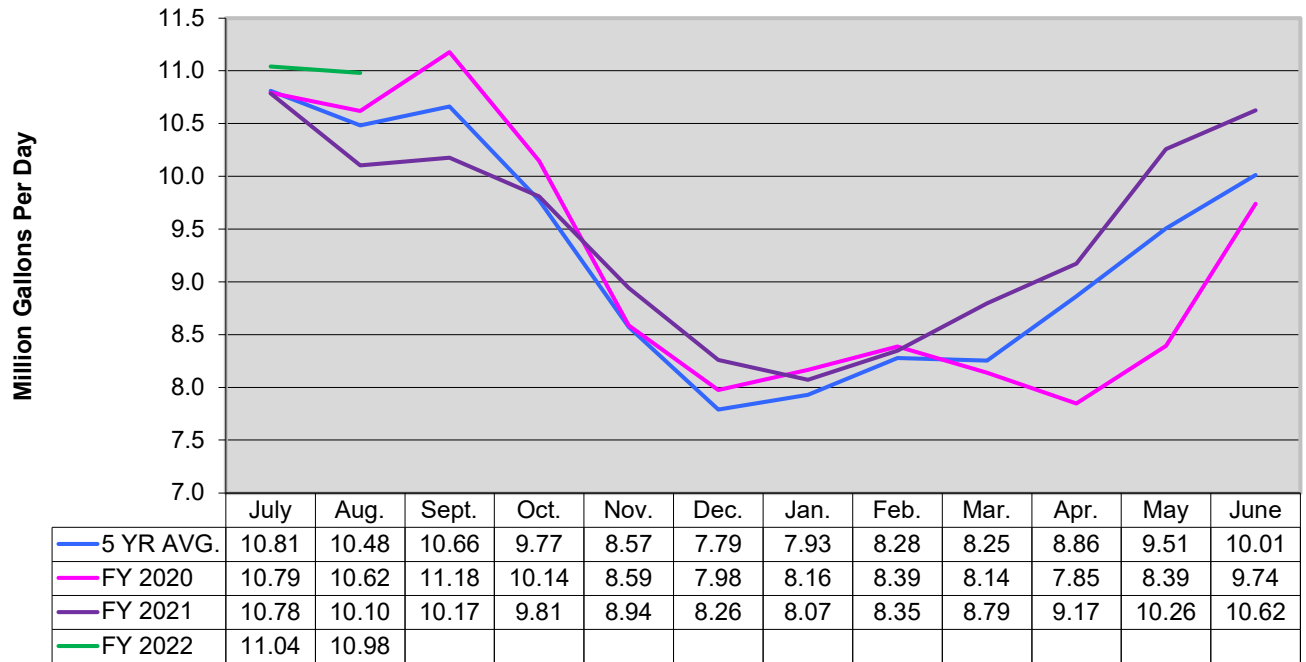
1.50%

\$ 29,111	\$ 4,614	\$ 4,263	\$ 351
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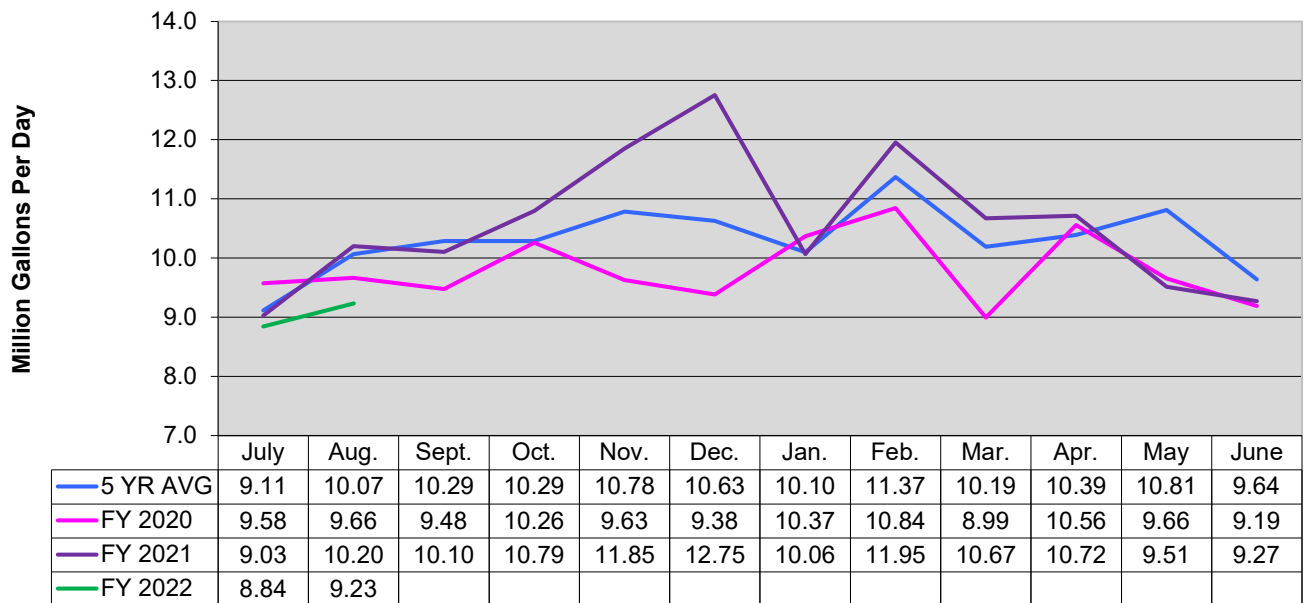
<b>100.00%</b>	<b>\$ 1,940,757</b>	<b>\$ 307,589</b>	<b>\$ 284,214</b>	<b>\$ 23,376</b>
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**Rivanna Water and Sewer Authority  
Flow Graphs**

**Urban Water Flows**



**Urban Wastewater Flows**



## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: DAVE TUNGATE, DIRECTOR OF OPERATIONS**

**REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: OPERATIONS REPORT FOR SEPTEMBER 2021**

**DATE: OCTOBER 26, 2021**

### WATER OPERATIONS:

The average and maximum daily water produced in September 2021 were as follows:

<i>Water Treatment Plant</i>	<i>Average Daily Production (MGD)</i>	<i>Maximum Daily Production in the Month (MGD)</i>
South Rivanna	8.46	9.43 (9/20/2021)
Observatory	1.89	3.48 (9/14/2021)
North Rivanna	<u>0.46</u>	<u>0.57 (9/21/2021)</u>
<b>Urban Total</b>	10.81	12.36 (9/15/2021)
Crozet	0.73	1.045 (9/7/2021)
Scottsville	0.05	0.07 (9/23/2021)
Red Hill	<u>0.0020</u>	0.004 (9/20/2021)
<b>RWSA Total</b>	11.59	-

- All RWSA water treatment facilities were in regulatory compliance during the month of September.

### Status of Reservoirs (as of October 19, 2021):

- Urban Reservoirs: 90% of Total Useable Capacity
- Ragged Mountain Reservoir is not full (87%)
- Sugar Hollow Reservoir is full \*
- South Rivanna Reservoir is full (100%)
- Beaver Creek Reservoir is not full (96%)
- Totier Creek Reservoir is full (100%)

\*The Sugar Hollow Reservoir was lowered 5 feet in November 2020 for a construction project. Normal pool level will be restored when the construction project has been completed, estimated to be by December 2021 if we receive normal precipitation.

### **WASTEWATER OPERATIONS:**

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during September 2021. Performance of the WRRFs in September was as follows compared to the respective VDEQ permit limits:

<b>WRRF</b>	<b>Average Daily Effluent Flow (MGD)</b>	<b>Average CBOD<sub>5</sub> (ppm)</b>		<b>Average Total Suspended Solids (ppm)</b>		<b>Average Ammonia (ppm)</b>	
		<b>RESULT</b>	<b>LIMIT</b>	<b>RESULT</b>	<b>LIMIT</b>	<b>RESULT</b>	<b>LIMIT</b>
<b>Moore's Creek</b>	9.85	2.0	10	<QL	22	0.26	2.2
<b>Glenmore</b>	0.091	3.3	15	7.0	30	NR	NL
<b>Scottsville</b>	0.041	3.8	25	2.3	30	NR	NL
<b>Stone Robinson</b>	0.001	NR	30	NR	30	NR	NL

NR = Not Required

NL = No Limit

<QL: Less than analytical method quantitative level (2.0 ppm for CBOD, 1.0 ppm for TSS, and 0.1 ppm for Ammonia).

Nutrient discharges at the Moore's Creek AWRRF were as follows for September 2021.

<b>State Annual Allocation (lb./yr.) Permit</b>		<b>Average Monthly Allocation (lb./mo.) *</b>	<b>Moore's Creek Discharge September (lb./mo.)</b>	<b>Performance as % of monthly average Allocation*</b>	<b>Year to Date Performance as % of annual allocation</b>
<b>Nitrogen</b>	282,994	23,583	7542	32%	22%
<b>Phosphorous</b>	18,525	1,544	687	44%	27%

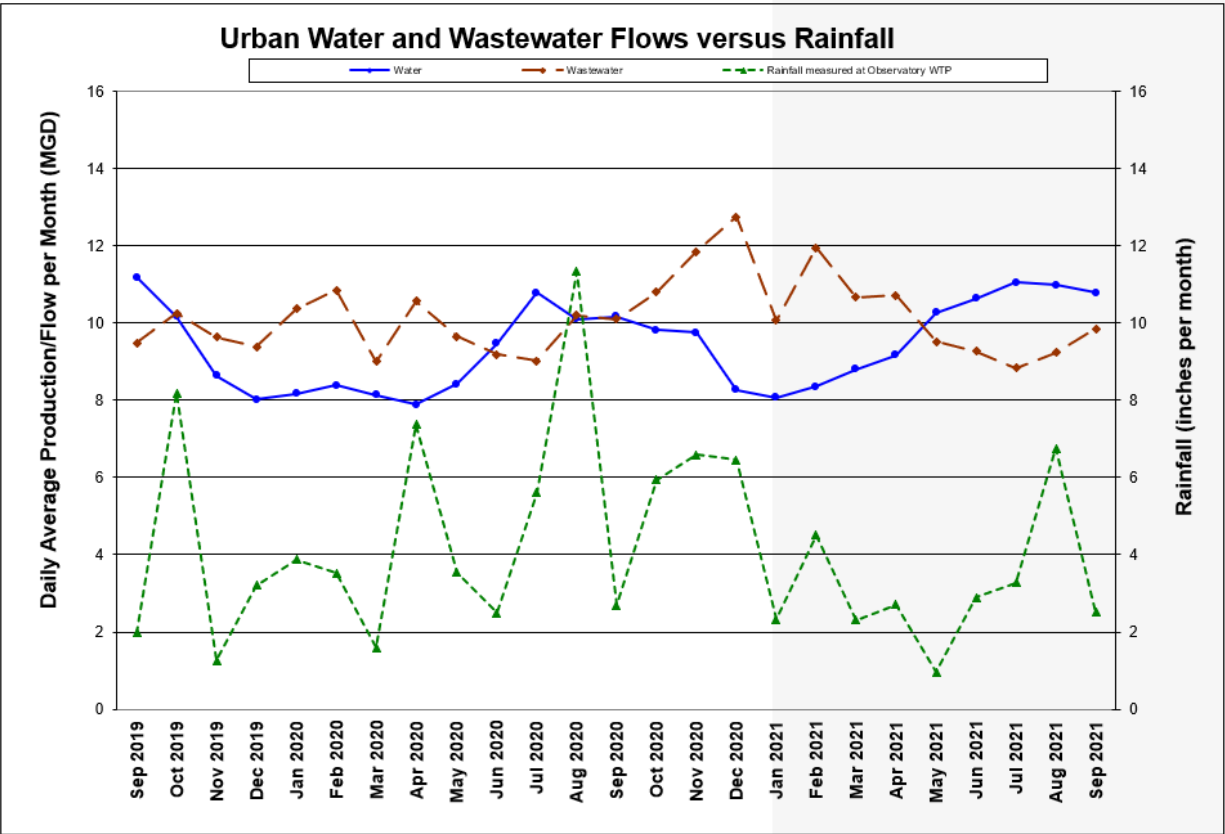
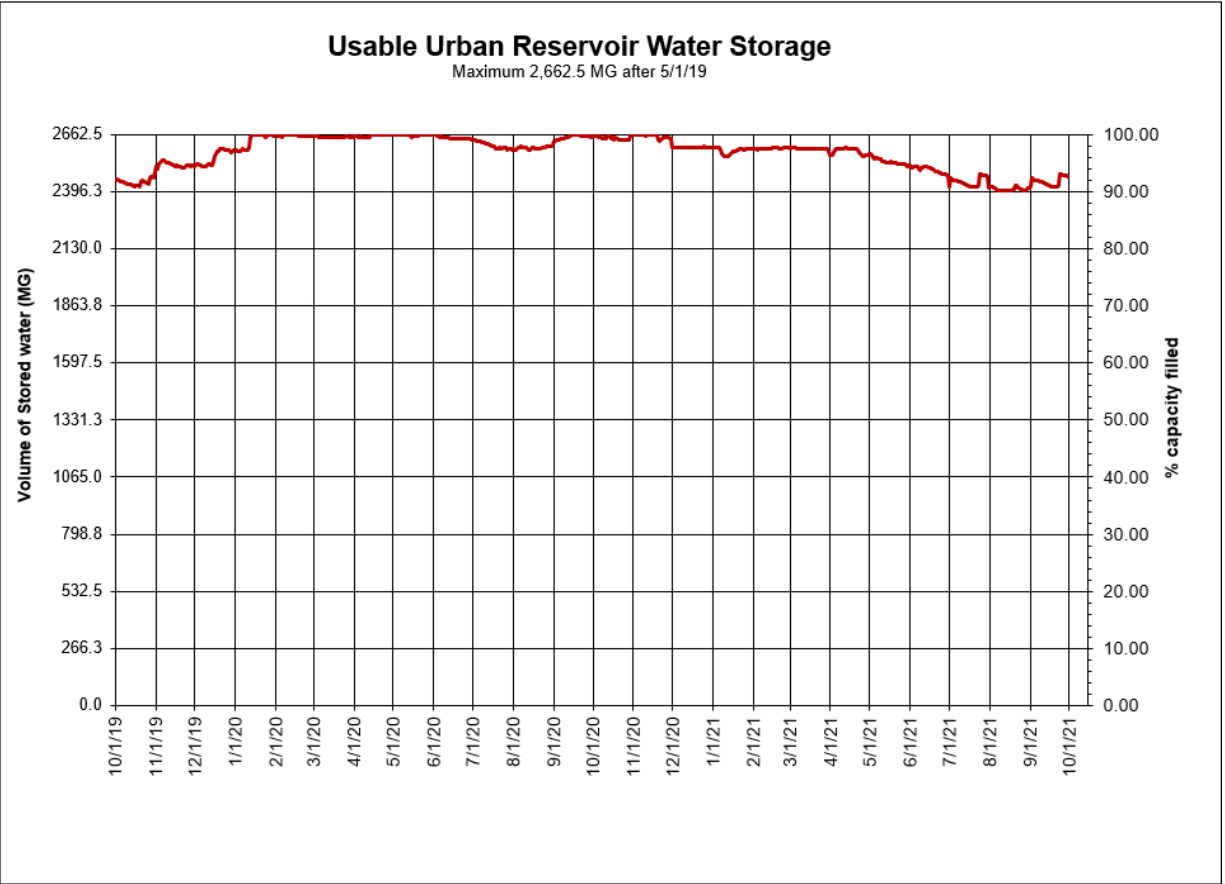
\*State allocations are expressed as annual amounts. One-twelfth of that allocation is an internal monthly benchmark for comparative purposes only.

### **WATER AND WASTEWATER DATA:**

The following graphs are provided for review:

- Usable Urban Reservoir Water Storage
- Urban Water and Wastewater Flows versus Rainfall







## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: JENNIFER WHITAKER, DIRECTOR OF ENGINEERING &  
MAINTENANCE**

**REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: STATUS REPORT: ONGOING PROJECTS**

**DATE: OCTOBER 26, 2021**

This memorandum reports on the status of the following Capital Projects as well as other significant operating, maintenance and planning projects.

For the current, approved CIP, please visit: <https://www.rivanna.org/wp-content/uploads/2021/06/2022-2026-CIP-Final.pdf>

### Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations
2. Crozet Flow Equalization Tank
3. MC Aluminum Slide Gate Replacements
4. MC Exterior Lighting Improvements
5. MC Generator Fuel Expansion
6. MC Clarifier and Silo Demolition
7. Glenmore WRRF Influent Pump & VFD Addition
8. Airport Road Water Pump Station and Piping

### Design and Bidding

9. Ragged Mtn Reservoir to Observatory WTP Raw Water Line and Pump Station
10. South Rivanna to Ragged Mtn. Raw Water Line – Birdwood to Old Garth
11. Beaver Creek Dam, Pump Station and Piping Improvements
12. South Rivanna River Crossing
13. MC 5kV Electrical System Upgrades
14. Central Water Line
15. Upper Schenks Branch Interceptor, Phase II

### Planning and Studies

16. South Rivanna Reservoir to Ragged Mtn Reservoir Water Line Right-of-Way
17. Urban Finished Water Infrastructure Master Plan

- 18. Asset Management Plan
- 19. MC Facilities Master Plan
- 20. SRR to RMR Pipeline – Pretreatment Pilot Study

#### Other Significant Projects

- 21. Urgent and Emergency Repairs
- 22. Interceptor Sewer & Manhole Repair
- 23. Security Enhancements

### **Under Construction**

#### **1. South Rivanna and Observatory Water Treatment Plant Renovations**

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	English Construction Company (Lynchburg, VA)
Construction Start:	May 2020
Percent Complete:	50 %
Base Construction Contract +	
Change Orders to Date = Current Value:	\$36,748,500 + \$474,849 = \$37,223,349
Completion:	March 2023
Budget:	\$43,000,000

Current Status: Work continues at the SRWTP with construction of the filter building expansion, the Alum and Fluoride Chemical Storage Building, Administration Building, sedimentation basin improvements and the replacement of high service pumps and VFDs. Work at the OBWTP includes foundation work associated with the new Chemical Storage Building and expansion of the filter building. Coordination with UVA and Dominion on a new electrical easement at the plant has been completed and documents are being finalized.

#### **2. Crozet Flow Equalization Tank**

Design Engineer:	Schnabel Engineering
Construction Contractor:	Anderson Construction (Lynchburg, VA)
Construction Start:	September 2020
Percent Complete:	60%
Based Construction Contract +	
Change Orders to Date = Current Value:	\$4,406,300
Completion:	November 2022
Budget:	\$5,400,000

Current Status: The concrete dome roof, installation of prestressed wire and the initial gunite layers for the walls have been completed. Electrical work and installation of new pumps in the pump station have begun. Leakage testing of the tank is anticipated for mid-November and the second phase of bypass pumping around the existing station will begin during the week of November 1st.

### 3. MC Aluminum Slide Gate Replacements

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Waco Incorporated (Sandston, VA)
Construction Start:	September 2020
Percent Complete:	85%
Base Construction Contract + Change Orders to Date = Current Value:	\$373,600 - \$30,400 = \$343,200
Completion:	November 2021
Budget:	\$675,000

Current Status: One of the existing mud valves near the Headworks was broken beyond repair. A new mud valve has been ordered and has a 3-4 week lead time. Work will resume in November.

A quote package for temporary bypass pumping and slide gate inspection for the Moores Creek Pump Station was awarded to Waco in September. This work will define the repairs and budget needed to complete the slide gate repair in the Moores Creek Pump Station.

### 4. MC Exterior Lighting Improvements

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Pyramid Electrical Contractors (Richmond, VA)
Construction Start:	April 2021
Percent Complete:	50%
Base Construction Contract + Change Order to Date = Current Value:	\$349,000
Completion:	February 2022
Budget:	\$600,000

Current Status: Conduit has been installed for all new light poles. Installation of pole bases for new lights continues and is expected to be completed this month. All the new LED light heads have been installed for the street lighting.

### 5. MC Generator Fuel Storage Expansion

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	Waco Incorporated (Sandston, VA)
Construction Start:	July 2021
Percent Complete:	20%
Base Construction Contract + Change Order to Date = Current Value:	\$168,860
Completion:	January 2022
Budget:	\$220,000

Current Status: The 8,000 gallon, above ground fuel storage tank has been ordered and delivery is expected in November 2021. Contractor is preparing the concrete pad.

## 6. MC Clarifier and Lime Silo Demolition

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Pleasant View Developers (Staunton, VA)
Construction Start:	November 2021
Percent Complete:	0%
Base Construction Contract + Change Order to Date = Current Value:	\$649,000
Completion:	August 2022
Budget:	\$790,000

Current Status: A preconstruction meeting was held on October 4<sup>th</sup> and a NTP date will be established following determination of material (piping) availability.

## 7. Glenmore WRRF Influent Pump and VFD Addition

Design Engineer:	Wiley Wilson
Construction Contractor:	MEB (Chesapeake, VA)
Construction Start:	September 2021
Percent Complete:	0%
Base Construction Contract + Change Order to Date = Current Value:	\$288,000
Completion:	October 2022
Budget:	\$370,000

Current Status: MEB is preparing material submittals and will be on-site in January.

## 8. Airport Road Water Pump Station and Piping

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2019
Project Status:	Award
Construction Start:	January 2022
Completion:	December 2023
Budget:	\$10,000,000

Current Status: Bids were opened on October 7, 2021. We expect the contractor to be on-site in January.

## Design and Bidding

## 9. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Pump Station

Design Engineer:	Michael Baker International (Baker) (Right of Way)
Design Engineer:	Kimley-Horn (Design)
Project Start:	August 2018
Project Status:	Design (5%) & Easement Acquisition

Construction Start:	2023
Completion:	2027
Budget:	\$30,000,000

Current Status:

Preparation of engineering plans and specifications is underway. Survey work along portions of the water main alignment is underway. Kimley-Horn and RWSA participated in a workshop on October 25, in which the boundary and operational conditions associated with the pump station were discussed. Kimley-Horn continues to assist staff with preparing documents for easement negotiations. Easement negotiations with one private owner, UVA, the UVA Foundation, and the Virginia Department of Forestry continue.

**10. South Rivanna Reservoir to Ragged Mtn. Reservoir Raw Water Line – Birdwood to Old Garth**

Design Engineer:	Kimley-Horn
Project Start:	June 2021
Project Status:	45% Design
Construction Start:	Summer 2022
Completion:	2023
Budget:	\$1,980,000

Current Status:

One remaining easement is under negotiation with the UVA Foundation. 30% design drawings have been completed and initial submittals have been made to the railroad and local regulatory authorities.

**11. Beaver Creek Dam, Pump Station and Piping Improvements**

Design Engineer:	Schnabel Engineering (Dam)
Design Engineer:	Hazen & Sawyer (Pump Station)
Project Start:	February 2018
Project Status:	60% NRCS Planning Process
Construction Start:	2024
Completion:	2026
Budget:	\$30,000,000

Current Status: A spillway upgrade alternative for the dam has been selected and was presented in a public meeting on October 6, 2021. A new raw water pump station site and pipe access route were selected and approved by the Board in August. Staff is moving forward with development of a Joint Permit Application and supporting documents for submission to DEQ by the end of 2021.

**12. South Rivanna River Crossing**

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2020
Project Status:	25% Design
Construction Start:	Spring 2022
Completion:	Fall 2023
Budget:	\$3,655,000

Current Status: Baker and its subconsultants are completing survey work and routing analysis.

### **13. MC 5 kV Electrical System Upgrades**

Design Engineer:	Hazen and Sawyer
Project Start:	August 2020
Project Status:	95% Design
Construction Start:	March 2022
Completion:	June 2024
Budget:	\$5,000,000

Current Status: Hazen submitted 95% design and staff have completed their review and passed comments back along to Hazen to begin preparation of the bid-ready submittal. Staff also conducted a workshop on October 5, in which impacts to operations under the project were discussed, along with ways to mitigate the impacts. All County permitting submittals were submitted in late September.

### **14. Central Water Line**

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2021
Project Status:	3% Design
Construction Start:	January 2024
Completion:	June 2026
Budget:	\$31,000,000

Current Status: Baker is coordinating survey work and utility information with the City. The project will extend from the Observatory Water Treatment Plant area along a route which may include Stadium Road, JPA Extended, Cleveland Avenue, Cherry Avenue, Elliot Avenue, 6th Street, 10th or 11th Street, and E. High Street to the intersection with Long Street.

### **15. Upper Schenks Branch Interceptor, Phase II**

Design Engineer:	Frazier Engineering, P.A.
Project Start:	July 2021
Project Status:	Design
Construction Start:	TBD
Completion:	TBD
Budget:	\$3,985,000

Current Status: A revised draft alignment of the sewer line being installed within easements and out of the roadway have been completed and are being shared with the City of Charlottesville and Albemarle County for review.

## **Planning and Studies**

### **16. South Rivanna Reservoir to Ragged Mtn. Reservoir Water Line Right-of-Way**

Design Engineer:	Michael Baker International (Baker)
Project Start:	October 2017
Project Status:	Easement Acquisition
Completion:	2021
Budget:	\$2,295,000

Current Status: Progress continues in our efforts to acquire the 8 miles of easements and agreements (with VDOT) for this 36" water line. Easements from the last 2 private owners will be completed this CY. Discussions continue on remaining easements with the UVA Foundation.

### **17. Urban Finished Water Infrastructure Master Plan**

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2018
Project Status:	95% complete
Completion:	November 2021
Budget:	\$253,000

Current Status: Staff is reviewing the draft report. Once the draft report is finalized, it will be circulated to stakeholders for review and comment. A review meeting with the City and ACSA is anticipated for later this month.

### **18. Asset Management Plan**

Design Engineer:	GHD, Inc.
Project Start:	July 2018
Project Status:	Phase 2 – 99% Complete CMMS Implementation – 40% Complete
Completion:	Phase 2 – 2021 CMMS Implementation – June 2022
Budget:	\$1,115,000

Current Status: A draft Tactical Asset Management Plan has been reviewed and comments provided to GHD for it to be finalized. For implementation of the new CMMS, GHD is completing updates to our facility geodatabase and continuing the software configuration process.

### **19. MC Facilities Master Plan**

Design Consultant:	Hazen and Sawyer
Project Start:	August 2019
Project Status:	95% Complete
Completion:	November 2021
Budget:	\$275,000



Current Status: Hazen is finalizing the Master Plan and a workshop with the City and ACSA is anticipated in late October.

## **20. SRR to RMR Pipeline – Pretreatment Pilot Study**

Design Consultant:	SEH
Project Start:	August 2020
Project Status:	100% Complete (Phase 1), 40% Complete (Phase 2)
Completion:	July 2022
Budget:	\$22,969 (Phase 1), \$98,629 (Phase 2)

Current Status: Phase 1, analysis of existing water quality and seasonal weather data, has been completed. SEH and staff have finalized the memo for this portion of the study. Phase 2 of the study has begun and includes detailed reservoir water quality modeling performed by DiNatale Water Consultants. DiNatale is working through scenarios utilizing a desktop model, in order to begin analyzing the potential water quality impacts associated with various transfer rates, along with other factors such as withdrawal depth, discharge depth, etc.

## **Other Significant Projects**

### **21. Urgent and Emergency Repairs**

Staff are currently working on several urgent repairs within the water and wastewater systems as listed below:

Project No.	Project Description	Approx. Cost
2020-14	MCWWPS Gate Valve 205 Replacement	TBD
2020-20	Finished Water Sampling Stations	\$150,000
2020-24	Erosion Between CZI MH-55 and 56	\$25,000
2021-04	UWL-ARV-15 Settlement	\$25,000
2021-05	Erosion Near SRW-059	\$40,000
2021-08	MCAWRRF Digester Manway Sealing	\$70,000
2021-09	SLW Erosion Near SLW-022	\$15,000
2021-13	UWL-ARV-12 Abandonment and Replacement	\$75,000

- Moore's Creek WWPS Gate Valve 205 Replacement: In July 2020, RWSA Operations staff identified a valve had become stuck in nearly the fully closed position, causing a reduction in the discharge capacity of the pumping station (PS), especially during wet weather events where both of the 24" force mains leaving the PS are required. Waco, Inc. was selected to perform the work under an Emergency Declaration by the Executive Director, and staff worked with Waco to plan for the associated force main shutdown and valve replacement. Due to excessive lead times and impending weather, a spool piece of pipe was procured for temporary installation while the replacement valve is procured. The existing gate valve was ultimately replaced with the spool piece of pipe during a planned pumping station shutdown during the early morning hours of August 2, 2020, restoring full pumping capabilities to the PS. In the preliminary attempts to shut down

one of the two discharge force mains and replace the No. 205 valve, it was discovered that additional valves inside the PS are not fully holding when placed in a closed position. It has been determined that any bypass pumping and replacement of valves will be coordinated with aluminum slide gate improvements to be performed at the pump station as well.

- Finished Water Sampling Stations: As a part of its ongoing Water Quality Monitoring Program, members of the Water & Laboratory Departments collect water samples from throughout the distribution system to track parameters such as Chlorine Residuals and Disinfection Byproducts. Historically, this has meant that staff must enter local businesses to collect the samples, which takes several minutes and further exposes staff to members of the public. In order to minimize staff exposure to the public and overall impact to local businesses/offices, seven (7) prefabricated sampling stations will be installed along ACSA finished water lines throughout the distribution system, which will allow staff to quickly and safely retrieve water samples. Faulconer Construction is performing this work for RWSA, with ACSA providing the associated wet taps. These 7 sites were completed by the week of December 7<sup>th</sup>. In addition, RWSA staff is coordinating with ACSA, the City, and UVA on a new set of five (5) additional sites. Work on these additional sites was completed by September 24, 2021. The sites are now being utilized by the RWSA Laboratory Department, and staff is coordinating entry of the new asset information into GIS.
- Erosion Between CZI MH-55 & 56: Excessive runoff from the adjacent Buckingham Branch railroad has caused moderate erosion over the Crozet Interceptor near Lynx Farm Lane. Staff is working with its On-Call Maintenance Contractor, Digs, Inc., to install erosion control measures over the easement, to better protect the existing 18" sanitary sewer. Staff has coordinated this work with Buckingham Branch, as well as adjacent property owners in the area. The work is slated to take place later in the Fall.
- UWL-ARV-15 Settlement: While marking a Miss Utility Ticket, the RWSA Engineering Department identified an ARV that was settling with a small section of Kenwood Lane. No immediate danger to the ARV is present, however, staff has looked at the issue with its On-Call Maintenance Contractor, Faulconer Construction, and is coordinating the necessary repairs. The overall scope of work will be to excavate around the ARV, replace the entire ARV assembly with more modern materials, install an appropriate structure/manhole around the ARV, and then perform all applicable site restoration. Work began during the week of 9/27, and staff found that the existing corp stop was seized, and the existing ARV assembly was very corroded, with a small leak/drip between the ARV and corp stop. Staff is coordinating a shutdown of the Urban Waterline on 11/2, following the ongoing watermain replacement in Emmet Street, which has facilitated a planned shutdown of the Observatory Waterline. Once the Urban Waterline is shutdown, staff can safely remove and replace the existing corp stop and ARV assembly and Faulconer can complete the installation of the surrounding manhole structure and appropriate site restoration.
- SRW-059 Erosion: During routine line inspections, the RWSA Maintenance Department identified that blowoff valve SRW-059 was experiencing continued erosion from the adjacent Meadow Creek, near the intersection of Melbourne and Rio Road. In addition, stormwater flows from Rio Road were found to be causing significant erosion elsewhere along the easement in the same general vicinity as well. RWSA is coordinating with its On-Call Maintenance Contractor, Digs, Inc., for completion of the associated repairs, and is also coordinating with VDOT and other

applicable regulatory agencies having jurisdiction over the work. This work is currently ongoing and scheduled to be completed by the end of the week of October 11.

- MCAWRRF Digester Manway Sealing: Staff has identified the immediate need to repair gas leaks in Digesters #1, #2 and #3 at the MCAWRRF. The gas leaks are a safety concern and are causing significant concrete degradation which has led to Digester #2 being taken out of service thereby reducing solids processing redundancy. Following external and internal inspections by our engineering consultants, it has been decided that installation of rubber seals in the manways and sample ports will mitigate gas leaks into the annular roof space and decrease further concrete degradation. Waco, Inc. was selected to perform the work under an Emergency Declaration by the Executive Director and seals were installed in Digester #2. Unfortunately, the Digester continued to leak gas once back in service so further investigative work is warranted to determine the source of the leaks and evaluate the structural integrity of the annular roof space. Waco will continue the investigative work and perform roof corings prior to proceeding with seal installations in Digesters #1 and #3. This work will proceed once the seals for Digester #1 have been delivered.
- Erosion Near SLW-022: In Spring 2021, staff identified an area of erosion over RWSA's 20" Southern Loop Waterline (SLW), located near Forest View Road in Albemarle County. During subsequent site visits, it was determined that an adjacent creek/stormwater channel has silted in, causing water to become redirected over the RWSA Easement during heavy rain events. Staff is coordinating easement restoration efforts through its On-Call Maintenance Contract for later this fall, and is also coordinating with Albemarle County Water Resources staff on potential collaborative efforts to address the issues on the RWSA easement and improve stormwater flow in the area.
- UWL-ARV-12 Abandonment and Replacement: As mentioned under the Urban Waterline Valve and Blow-off repair project previously, UWL-ARV-12, which is located in the entrance to the Exxon Gas Station along Rio Road, is slated to be abandoned in place due to its condition and difficult to access location. The Air Release Valve is planned to be relocated into an adjacent grassy area, improving performance with all-new materials, and facilitating better staff access. This work is slated to be completed by the end of October.

## 22. Interceptor Sewer and Manhole Repair

Design Engineer:	Frazier Engineering
Construction Contractor:	Tri-State Utilities, LLC
Construction Start:	November 2017
Percent Complete:	Evaluation – 25%
Base Construction Contract + Change Orders to Date = Current Value:	\$37,980
Expected Completion:	June 2022
Total Capital Project Budget:	\$1,088,330 (Urban) + \$880,000 (Crozet) = \$1,968,330

Current Status: With the completion of the Upper Morey Creek Interceptor (MRI) Point Repair/New MH Installation, all rehabilitation work on the Upper MRI has been completed. Staff continues coordination on the lower Powell Creek Interceptor and a portion of the Woodbrook Interceptor, as

these are the next high-priority areas to be addressed based upon the latest CCTV footage. The scope of this rehabilitation work is likely to include several sections of Cured in Place Piping, as well as manhole rehabilitation. After discussions with RWSA's former Sanitary Sewer Rehabilitation Contractor, IPR Northeast, it was determined that they were going to be unable to complete the necessary sewer cleaning and televising prior to the Substantial Completion date for the Contract. Staff issued a quote package to procure a contractor for the necessary sewer cleaning and televising along the Powell Creek and Woodbrook Interceptors, and Tri-State Utilities, LLC was awarded the cleaning and televising work. A Notice to Proceed was issued on 10/4, and the cleaning/CCTV work is underway. Work is anticipated to be completed by the end of October, barring any delays due to inclement weather.

## 23. Security Enhancements

Design Engineer:	N/A
Construction Contractor:	Security 101
Construction Start:	March 2020
Percent Complete:	75% (WA 2 & 3), 0% (WA 4)
Based Construction Contract + Change Orders to Date = Current Value:	\$718,428.00 (WA1) + \$91,130.32 (WA2) + \$128,166.69 (WA3) + \$189,698.95 (WA4) = \$1,127,423.96 (total)
Completion:	October (WA 2 & 3), February 2022 (WA 4)
Approved Capital Budget:	\$2,730,000

Current Status: Access control system installation has been completed on all exterior doors at MCAWRRF, as well as all WTP motorized gates. The Card Access System is in use at the Administration, Engineering, and Maintenance Buildings at MCAWRRF, as well as at the WTP gates. The only task that remains is some door and lock hardware improvements under WA #2, which will enhance the functionality of the card access system, especially at the various process buildings across the site. Other miscellaneous improvements include installation of card access on 3 additional doors, and improvements to the intercom system in the Administration Building. This work is underway, with the lock and door equipment currently being installed across the site. The majority of the new cylinders and handles have been installed, with some still in long manufacturing lead times. Staff is working to schedule the replacement of several doors this month as well. WA #3 is also underway, which includes card access installation at the Crozet and Scottsville WTP exterior doors. Scottsville WTP is substantially complete, while Crozet still has a few minor items in manufacturing lead times. Once these components arrive and are installed, Crozet WTP will be substantially complete as well. Finally, WA #4 includes security conduit at the South Rivanna and Observatory WTPs that was not included in the Improvements Project. This work is anticipated to begin later this fall.

## History

## Under Construction

### 1. South Rivanna and Observatory Water Treatment Plant Renovations

An informational meeting with prospective contractors was held on September 26, 2019 to maximize interest in the project. A project kickoff meeting with staff was held on November 14, 2018 and 30%

design documents were provided in February. A Value Engineering Workshop took place the week of April 8, 2019, and a memo summarizing the results has been completed. Agreed upon results were incorporated into the project. The project was advertised, and bids were received. English Construction was awarded the contract and a Notice to Proceed was issued on May 18, 2020.

**Observatory:** This project will upgrade the plant from 7.7 to 10 MGD capacity. Costs to upgrade the plant to 12 MGD were determined to be too high at this time. Much of the Observatory Water Treatment Plant is original to the 1953 construction. A Condition Assessment Report was completed by SEH in October of 2013. The approved Capital Improvement Plan project was based on the findings from this report. The flocculator systems were replaced and upgraded as part of the Drinking Water Activated Carbon and WTP Improvements project (GAC). Four additional GAC contactors will be included in the design.

**South Rivanna:** The work herein includes expansion of the coagulant storage facilities; installation of additional filters to meet firm capacity needs; the addition of a second variable frequency drive at the Raw Water Pump Station; the relocation for the electrical gear from a sub terrain location at the Sludge Pumping Station; a new building on site for additional office, lab, control room and storage space; improvements to storm sewers to accept allowable WTP discharges; of new metal building to cover the existing liquid lime feed piping and tanks. The scope of this project will not increase the 12 MGD plant treatment capacity.

## **2. Crozet Flow Equalization Tank**

A 2016 update to the 2006 model was completed which evaluated the I&I reduction goals previously established and future capital project needs. Based on the results of that study, it was determined that the Crozet Interceptor system and the existing Crozet Pump Stations (1 through 4) have adequate capacity to handle the 2015 peak wet weather flow from the Crozet Service Area during a two-year storm. However, as projected growth in the service area occurs, peak wet weather flows in the area under the storm conditions established in the updated model will begin to exceed the firm capacities of the pump stations by 2025. Additional I&I reductions in order to reduce flows enough to not exceed the pump station firm capacities are not feasible and as a result, the construction of a flow equalization tank was identified as the best method to alleviate wet weather capacity issues.

While the study indicates that capacity should not be an issue until 2025, a flow equalization tank would also provide a significant benefit to the maintenance of the Crozet Pumping Station system which currently lacks system storage necessary to allow adequate time to perform repairs on the pumps and the associated force mains while the system is down.

Greeley and Hansen completed a siting study to determine the location for the flow equalization tank based on the results of the comprehensive model update. The results of the siting study were reviewed with ACSA and a final tank location was determined.

A work authorization with Schnabel Engineering was finalized and a Project Kick-off Meeting was held on July 12, 2018. The construction bids were received on July 16, 2020. Anderson Construction of Lynchburg, VA was awarded the construction contract. Notice to Proceed on this project was given on October 9, 2020 and now construction is in progress.

### **3. MC Aluminum Slide Gate Replacements**

Several large aluminum slide gates are located at the influent side of the Moores Creek Pump Station. These gates allow staff to stop or divert flow to perform maintenance activities. After repeated attempts to repair the deteriorated gates, it is now necessary to replace the gates and modify the gate arrangement. There are also several deteriorated gates at the Ultraviolet disinfection facility that leak water, causing a reduced capacity of the facility. Replacement of these gates will restore the process to full capacity. Work also includes replacement of the cast iron gates in the holding pond pump station and new actuators on the headworks gates. A Notice to Proceed for these efforts was provided on October 6, 2020. The work specific to the Moores Creek Pump Station will be bid under a separate project due to the extensive bypass pumping.

### **4. Sugar Hollow Dam – Rubber Crest Gate Replacement and Intake Tower Repairs**

In 1998, the Sugar Hollow Dam underwent a significant upgrade to improve structural stability and spillway capacity. The original metal spillway gates were replaced with a manufactured five-foot-high inflatable rubber dam that is bolted to the existing concrete structure. This rubber dam allows for the normal storage of water in the reservoir with the ability to be lowered during extreme storm events. The rubber dam has an approximate service life of twenty years and is therefore now due for replacement. The aging intake tower structure has been inspected and evaluated. Recommended repairs include repair or replacement of intake trash racks and sealing/grouting of minor concrete wall cracks. This project was advertised for construction in July 2020 and Allegheny Construction was awarded the project. A Notice to Proceed was provided on October 1, 2020.

### **5. MC Exterior Lighting Improvements**

The lighting at the 80-acre MCAWRRF consists of over 300 fixtures installed over the entire life of the facilities presence at Moores Creek. In 2019, Albemarle County investigated the lighting plan at the facility and issued a Zoning Notice of Violation.

RWSA and Albemarle County staff have been working together to best address the issue. A photo metric plan of existing lighting was submitted to the county for review. RWSA has submitted a minor site plan amendment and Architectural Review Board submission that will include a large scale replacement of non-compliant fixtures as well as address industrial lighting standards for the entire facility. The submission was approved by the County and design is underway.

The design has been completed by Hazen and Sawyer and the project was awarded to Pyramid Electrical Contractors, LLC. Notice to Proceed was provided on April 13, 2021.

### **6. MC Generator Fuel Expansion**

The Moores Creek AWWRF south side electrical facilities have a single large system back-up power generator that was installed between 2009 – 2012 during the ENR plant upgrade. The generator has a belly tank that allows for approximately 22 hours of operation. This project will install an ancillary fuel tank that will allow for approximately three days of operation. A Notice of Award was issued to Waco, Inc. Construction of the concrete pad the new tank will rest on as well as electrical connections for the tank are in progress. Tank delivery is expected in November.

### **7. MC Clarifier and Lime Silo Demolition**

The two in-plant clarifiers were constructed in the late 1950's and were taken out of service as a result of the Odor Control Project at the plant. Due to the age of the tanks, various components have

significantly deteriorated over time and no additional uses for these tanks have been identified. In addition, due to their out-of-service status, they remain empty and a safety concern for plant staff and visitors. There is also an abandoned lime silo currently located adjacent to the Solids Handling Building. Lime was previously used with the old plat and frame presses before centrifuges were installed for sludge dewatering purposes. This project will include the complete demolition of the in-plant clarifiers by removing all existing components, backfilling the area, and returning the area to open space and removing the lime silo from the plant and properly disposing of it. The project was advertised, and bids are due on July 1, 2021. A Notice of Award was issued on August 6, 2021 and a Notice to Proceed was issued on September 28, 2021.

#### **8. Glenmore WRRF Influent Pump and VFD Addition**

The 0.381-mgd water resource recovery facility, located within the Glenmore subdivision, is operated by RWSA. The facility includes an influent pumping station located immediately adjacent to the treatment facility. The Glenmore WRRF is predicted to see additional dry and wet weather flows as construction within the service area continues. Future wet weather flows will require higher influent pumping capacity and an additional pump and electrical variable frequency drive will be required to maintain firm capacity. After discussions with the Operations and Maintenance departments, installation of a new exhaust fan in the influent pump station will also be included. A work authorization for this project has been finalized and design is underway. The project was advertised, and bids are due on July 8, 2021. A Notice of Award was issued on August 6, 2021.

### **Design and Bidding**

#### **9. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Raw Water Pump Station**

A Work Authorization was executed in December 2018 with Michael Baker International for the raw water line routing study, preliminary design, plat creation and the easement acquisition process for this portion of the project. Raw water is transferred from the Ragged Mountain Reservoir (RMR) to the Observatory Water Treatment Plant (WTP) by way of two 18-inch cast iron pipelines, which have been in service for more than 110 and 70 years, respectively. The increased frequency of emergency repairs and expanded maintenance requirements are one impetus for replacing these pipelines. The proposed water line will be able to reliably transfer water to the expanded Observatory plant. The new pipeline will be constructed of 36-inch ductile iron and will be approximately 2.6 miles feet in length. The segment of the project immediately east of the RMR will constitute a portion of the proposed South Rivanna Reservoir to RMR raw water main project as part of the approved 50-year Community Water Supply Plan.

The RMR to Observatory WTP raw water pump station is planned to replace the existing Stadium Road and Royal pump stations, which have exceeded their design lives or will require significant upgrades with the Observatory WTP expansion. The pump station will pump up to 10 million gallons per day (MGD) of raw water to the Observatory WTP. The new pump station site selection and design are being conducted in coordination with the South Rivanna Reservoir to RMR pipeline in the interest of improved operational and cost efficiencies. An integrated pump station would also include the capacity to transfer up to 16 MGD of raw water from RMR back to the SR WTP.

Both Design Work Authorizations received Board of Directors approval on July 27, 2021.

#### **10. South Rivanna Reservoir to Ragged Mtn. Reservoir Raw Water Line -Birdwood to Old Garth**

This project is the continuation of the SRR to RMR 36" raw water pipeline built on the Birdwood Golf Course. Design effort were authorized in June 2021 with construction anticipated in Summer 2022.

#### **11. Beaver Creek Dam and Pump Station Improvements**

Dam: RWSA operates the Beaver Creek Dam and reservoir as the sole raw water supply for the Crozet Area. In 2011, an analysis of the Dam Breach inundation areas and changes to Virginia Department of Conservation and Recreation (DCR) *Impounding Structures Regulations* prompted a change in hazard classification of the dam from Significant to High Hazard. This change in hazard classification requires that the capacity of the spillway be increased. This CIP project includes investigation, preliminary design, public outreach, permitting, easement acquisition, final design, and construction of the anticipated modifications. Work for this project will be coordinated with the new relocated raw water pump station and intake and a reservoir oxygenation system project.

Schnabel Engineering developed three alternatives for upgrading the capacity of the Beaver Creek Dam Spillway in 2012. Following the adoption of a new Probable Maximum Precipitation (PMP) Study on December 9, 2015 and the release of DCR guidelines for implementing the PMP study in March of 2016, RWSA determined it would proceed with an updated alternatives analysis and Preliminary Engineering Report for upgrading the dam spillway. Following the completion of an updated alternatives analysis by Schnabel Engineering, staff met with members of Albemarle County and ACSA staff to discuss the preferred alternative. It was determined that staff would proceed with design of a labyrinth spillway and chute through the existing dam with a bridge to allow Browns Gap Turnpike to cross over the new spillway.

In 2020, staff received grant funding for a planning and environmental study from the Natural Resources Conservation Service (NRCS). The project kicked off in August 2020 and is expected to be completed in July 2022. Following completion of the study and acceptance of the Plan-Environmental document by NRCS, staff will pursue additional grant funding through NRCS that, if available, could cover up to 65% of final design and construction costs.

Pump Station: The Drinking Water Infrastructure Plan for the Crozet water service area, developed by Hazen and Sawyer, recommends installation of a new Raw Water Pump Station and Intake at the Beaver Creek Dam in order to meet new minimum instream flow requirements and provide adequate raw water pumping capacity to serve the growing Crozet community for the next 50 years. The pump station will be moved out of its existing location at the toe of the dam to a new location, to be determined during design. The new intake structure will include enhanced controls to allow for access to the best quality water at any given time.

#### **12. Airport Road Water Pump Station and Piping**

The Rt. 29 Pump Station and Pipeline master plan was developed in 2007 and originally envisioned a multi-faceted project that reliably connected the North and South Rivanna pressure bands, reduced excessive operating pressures, and developed a new Airport pressure zone to serve the highest elevations near the Airport and Hollymead Town Center. The master plan update was completed in June of 2018 to reflect the changes in the system and demands since 2007. This project, along with the South Rivanna River Crossing and North Rivanna Transmission Main project, will provide a reliable and redundant finished water supply to the North Rivanna area. The proposed pump station will be able to serve system demands at both the current high pressure and future low-pressure



conditions. These facilities will also lead to future phase implementation which will include a storage tank and the creation of the Airport water pressure zone. The North Rivanna Transmission Main improvements included under a separate CIP project have been added to this project to allow connection of the pump station to the distribution system.

### **13. South Rivanna River Crossing**

RWSA has previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant (SRWTP) to Hollymead Town Center to meet future water demands. Two segments of this water main were constructed as part of the VDOT Rt. 29 Solutions projects, including approximately 10,000 LF of 24-inch water main along Rt. 29 and 600 LF of 24-inch water main along the new Berkmar Drive Extension, behind the Kohl's department store. To complete the connection between the SRWTP and the new 24-inch water main in Rt. 29, there is a need to construct a new river crossing at the South Fork Rivanna River. Acquisition of right-of-way will be required at the river crossing.

### **14. MC 5 kV Electrical System Upgrades**

After discussions through the Moores Creek Facilities Master Plan, it was identified that several areas of the MCAWRRF, including the Blower Building, Sludge Pumping Building, Grit Removal Building, Moores Creek Pumping Station, and the Administration Building are all still connected to the original 5kV switchgear in the Blower Building. This equipment, including the associated cabling, switchgear, transformers, and motor control centers (MCCs), has a useful life expectancy of 20-30 years. Most of this equipment was installed around 1980. With the equipment having well exceeded its useful life expectancy at this point, safety is a concern given the large electric loads that the cabling and other equipment are handling on a day-to-day basis. Failure of the existing 5kV infrastructure could also result in temporary outages of certain treatment processes, and repairs could take weeks to months given the lead times associated with equipment of this age. A technical memo was provided in July 2020 by Hazen & Sawyer, which recommended that a CIP Project be added immediately to encompass replacement of the original 1980s-vintage 5kV cables, switchgear, transformers, and MCCs. A CIP Amendment Recommendation and Engineering Services Work Authorization was approved during the August 2020 Board of Directors Meeting. The Design Work Authorization was executed on October 6, 2020.

A Design Kickoff Meeting was held virtually on October 20, 2020. A site visit was attended on November 5, 2020 by Hazen & Sawyer staff, as well as RWSA Maintenance and Engineering Department staff. 50% Design Documents were provided in Spring 2021, with staff feedback provided soon thereafter. A follow-up site visit by Hazen was performed in July 2021, in order to confirm the availability of spare conduits across the site and plan for the associated cable replacements.

### **15. Central Water Line**

Route alignment determination, hydraulic modeling, and preliminary design were underway in 2017. Due to the complicated nature of our finished water systems, it was decided at the August 2018 Board meeting that a more comprehensive approach was warranted and we should complete the Finished Water Master Plan prior to moving forward with final design and construction of the Central Water Line (formerly referred to as the Avon to Pantops Water Main). The focus of this project was on the southern half of the urban area water system which is currently served predominantly by the Avon Street and Pantops water storage tanks. The Avon Street tank is hydraulically well connected to the Observatory Water Treatment Plant, while the Pantops tank is well connected to the South Rivanna Water Treatment Plant. The hydraulic connectivity between the two tanks, however, is less than

desired, creating operational challenges and reduced system flexibility. In 1987, the City and ACSA developed the Southern Loop Agreement which laid out two key phases (with the first being built at the time). The 1987 Agreement and planning efforts were a starting point for this current project. An engineering contract has been negotiated and was approved by the Board of Directors in July 2017. Recent efforts and modeling for the Urban Finished Water Infrastructure Master Plan have determined that a central water line corridor through the City is the best option to hydraulically connect the Observatory Water Treatment Plant to the Pantops area.

#### **16. Upper Schenks Branch Interceptor, Phase II**

The Schenks Branch Sanitary Sewer interceptor is a pipeline operated by RWSA that serves the City of Charlottesville. The 21-inch sewer line was originally constructed by the City in the 1950s. Evaluations from the flow metering and modeling from the Comprehensive Sanitary Sewer Interceptor Study, and negotiations with the ACSA and City, resulted in an inflow and infiltration reduction plan from which it was concluded that increased capacity of the Schenks Branch Interceptor was needed for wet weather peak flow. Due to several road construction projects and the construction of the Meadow Creek Interceptor project along the sewer alignment, Schenks Branch was to be constructed in multiple phases. The completed sections, collectively known as the Lower Schenks Branch Interceptor, include the Tie-in to Meadow Creek, the section along McIntire Road Ext, and the section through the Route 250 Interchange.

The remaining sections, which are considered the Upper Schenks Branch Interceptor, were split into 2 phases. The first phase has been completed and is located within City-owned Schenks Greenway adjacent to McIntire Road, and the second phase is to be located on County property (baseball field and County Office Building) adjacent to McIntire Road.

### **Planning and Studies**

#### **17. South Rivanna Reservoir to Ragged Mtn. Reservoir Water Line Right-of-Way**

The approved 50-year Community Water Supply Plan includes the construction of a raw water line from the South Rivanna Reservoir to the Ragged Mountain Reservoir. This water line will replace the existing Upper Sugar Hollow Pipeline and increase raw water transfer capacity in the Urban Water System. The preliminary route for the water line followed the proposed Route 29 Charlottesville Bypass; however, the Bypass project was suspended by VDOT in 2014, requiring a more detailed routing study for the future water line. This project includes a routing study, preliminary design, and preparation of easement documents, as well as acquisition of water line easements along the approved route.

Baker has completed the routing study. Preliminary design, plat creation and the acquisition of easements are underway. Property owners were contacted to request permission to access properties for topographical surveying. A community information meeting was held in June 2018.

#### **18. Urban Finished Water Infrastructure Master Plan**

As identified in the 2017 Strategic Plan, the Authority has a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. Staff has identified asset master planning as a priority strategy to improve overall system development. Many previously identified projects in the urban finished water treatment and distribution system are in preliminary engineering, design, or construction. As such, staff have identified a need to develop a current and ongoing finished

water master plan.

#### **19. Asset Management Plan**

Asset management is the practice of managing our infrastructure to minimize the total cost of owning and operating these assets while providing desired service levels. In doing so, it is used to make sure planned maintenance activities take place and that capital assets are replaced, repaired, or upgraded at the right time, while ensuring that the money necessary to perform those activities is available. RWSA has some components of an asset management program in place (i.e. GIS, work order system), but has identified the need to further develop the program as part of our Strategic Planning process. In order to continue to build the program, a consultant has been procured to assist with a three-phase process that will include facilitation and development of an asset management strategic plan, development and management of a pilot study where the results of the strategic plan will be applied to a specific class of assets, and assistance through a full implementation process. As part of this three-phase process, the consultant also assisted RWSA with the procurement of a new CMMS software package to facilitate the overall program. Cityworks was selected and implementation has begun.

#### **20. MC Facilities Master Plan**

The majority of the Moores Creek Water Resource Recovery Facility was constructed in the early 1980's. At the time, the plant layout was developed with space held open for future process expansion. With the Enhanced Nutrient Removal (ENR) project in 2009, the operation and layout of the plant was fundamentally altered, as needed to meet the new regulation. The project did anticipate the need for future expansion and some of the processes have readily available space. However, a full expansion plan was not developed at the time. As identified in the Strategic Plan, the Authority has a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. Staff has identified asset master planning as a priority strategy to improve overall system development. As such, this project will serve to evaluate and plan for future space and process needs to accommodate capacity expansion and/or anticipated regulatory changes.

#### **21. SRR to RMR Pipeline – Pretreatment Pilot Study**

As part of the SRR to RMR Pipeline project, the impact of sending raw water from the SRR to RMR has been previously studied and a significant amount of pretreatment was initially identified as being needed to avoid reducing the quality of the raw water contained within the RMR. With the pipeline easement acquisition process well underway and additional information now available associated with the proposed timing of this overall project based on water demand projections, the intent of this project is to update the pretreatment needs anticipated.

The study is anticipated to be completed in 4 phases: 1. Analysis and Correlation of Existing Water Quality and Seasonal Weather Data 2. Enhanced Water Quality Sampling 3. Pretreatment Piloting 4. Level Setting for the Final Pretreatment Solution. Phase 1 commenced in January 2021.

#### **Other Significant Projects**

## **22. Urgent and Emergency Repairs**

- **South Rivanna Dam Apron and River Bank Repairs**

Intense rainfall between May 30-31, 2018 resulted in extensive flooding throughout Charlottesville and parts of Albemarle County, with flows over the South Fork Rivanna Dam reaching more than 7 feet over the spillway crest at its peak. Staff has inspected the dam and abutments to determine the extent of damage resulting from the extreme flooding. Although there is no discernible damage to the dam itself, staff found erosion damage to the north downstream river bank and substantial displacement of large stone downstream of the dam to form a rock dam and pool below the north apron. Additionally, some damage to concrete structures on both aprons was noted, including possible creation of voids beneath the concrete and loss of concrete joint filler. Repairs to the river bank and removal of the rock dam were completed June 3-7, 2019 under RWSA's on-call construction contract.

- **Urban Water Line Valve and Blow-off Repair**

During its routine inspections of the Water System, the Maintenance Department discovered a blowoff (drain) valve along the Urban Waterline (UWL-017) that had significant leakage. In addition, during one of the numerous heavy rain events received in 2018, the water in the creek adjacent to the drain line rose, eroding the area around the drain line and causing the headwall to become disconnected from the end of the pipe. Staff will be coordinating internally to confirm the overall scope of the project, including whether the drain line will need to be further reinforced or restrained.

## **23. Interceptor Sewer and Manhole Repair**

Results from sewer flow monitoring and modeling under the Comprehensive Sanitary Sewer Study provided awareness to specific inflow and infiltration (I&I) concerns in the collection system and resulted in strengthened commitments from the City, ACSA and RWSA to continue professional engineering services to aid in the rehabilitation and repair of the sewer collection system. Engineering services will be used for sewer infrastructure condition assessments and the development of a sewer rehabilitation bid package for the procurement of a contractor to perform the recommended rehabilitation work.

Lining work and manhole rehabilitation on the Upper Morey Creek Interceptor began in Fall 2019 and was completed in Fall 2020. A critical section of upper Morey Creek Interceptor under Rt. 250 was lined on August 28, 2020. 65' of new ductile iron sewer to replace a sagging section of vitrified clay piping was installed in May 2021.

## **24. Security Enhancements**

As required by the Federal Bioterrorism Act of 2002 and the American Water Infrastructure Act of 2018, water utilities must conduct Vulnerability Assessments and have Emergency Response Plans. RWSA recently completed an updated Risk Assessment of its water system in collaboration with the Albemarle County Service Authority (ACSA), City of Charlottesville (City), and University of Virginia (UVA). A number of security improvements that could be applied to both the water and wastewater systems were identified. The purpose of this project will be to install security improvements at RWSA facilities including additional security gate and fencing components, vehicle bollards, facility signage, camera system enhancements, additional security lighting, intrusion detection systems, door and window hardening, installation of industrial strength locks, communication technology and cable hardening, and an enhanced access control program.

RWSA Engineering staff held a meeting with Operations staff to discuss overall project needs and priorities in October 2018. Meetings with ACSA and City staff were held in Fall/Winter 2018-2019 to discuss how access control and intrusion detection systems have been implemented into to the day-to-day operations of the two utilities. A Request for Proposal (RFP) for an Implementer to facilitate selection of an access control system, confirmation of design requirements based upon RWSA's facilities and project goals, and installation of the selected system was issued on June 6, 2019. RWSA conducted a Pre-Proposal Meeting on June 14, 2019, and proposals were opened on June 27, 2019. Interviews were conducted on July 15-16, 2019, and a Contract Award Recommendation was approved by the Board on July 23, 2019. Access Control System Installation at MCAWRRF began in March 2020. Access Control System Installation was completed in the Administration and Engineering Buildings by the week of November 30, 2020, completing installation of the physical access control system across the MCAWRRF site. Training for staff was completed on November 10, 2020. RWSA authorized improvements to locks and doors across the MCAWRRF site on May 4, 2021, in order to improve the condition of the hardware and subsequently, operations of the access control system. In addition, installation of the card access system on all exterior doors at the Scottsville and Crozet Water Treatment Plants (SVWTP and CZWTP, respectively) was authorized shortly thereafter.



## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: JENNIFER WHITAKER, DIRECTOR OF ENGINEERING &  
MAINTENANCE**

**REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: WHOLESALE METERING REPORT FOR SEPTEMBER 2021**

**DATE: OCTOBER 26, 2021**

The monthly and average daily Urban water system usages by the City and the ACSA for September 2021 were as follows:

	<i>Month</i>	<i>Daily Average</i>	
City Usage (gal)	160,870,424	5,362,347	<b>49.8%</b>
ACSA Usage (gal)	162,459,740	5,415,325	<b>50.2%</b>
<b>Total (gal)</b>	<b>323,330,164</b>	<b>10,777,672</b>	

The *RWSA Wholesale Metering Administrative and Implementation Policy* requires that water use be measured based upon the annual average daily water demand of the City and ACSA over the trailing twelve (12) consecutive month period. The *Water Cost Allocation Agreement (2012)* established a maximum water allocation for each party. If the annual average water usage of either party exceeds this value, a financial true-up would be required for the debt service charges related to the Ragged Mountain Dam and the SRR-RMR Pipeline projects. Below are graphs showing the calculated monthly water usage by each party, the trailing twelve-month average (extended back to October 2020), and that usage relative to the maximum allocation for each party (6.71 MGD for the City and 11.99 MGD for ACSA).

NOTE: An outage at meter site 11 (Avon Street) from 9/28/21-10/5/21 resulted in missing data. The monthly reading for this site was estimated from available data. The site was restored on October 6, 2021.

Figure 1: City of Charlottesville Monthly Water Usage and Allocation

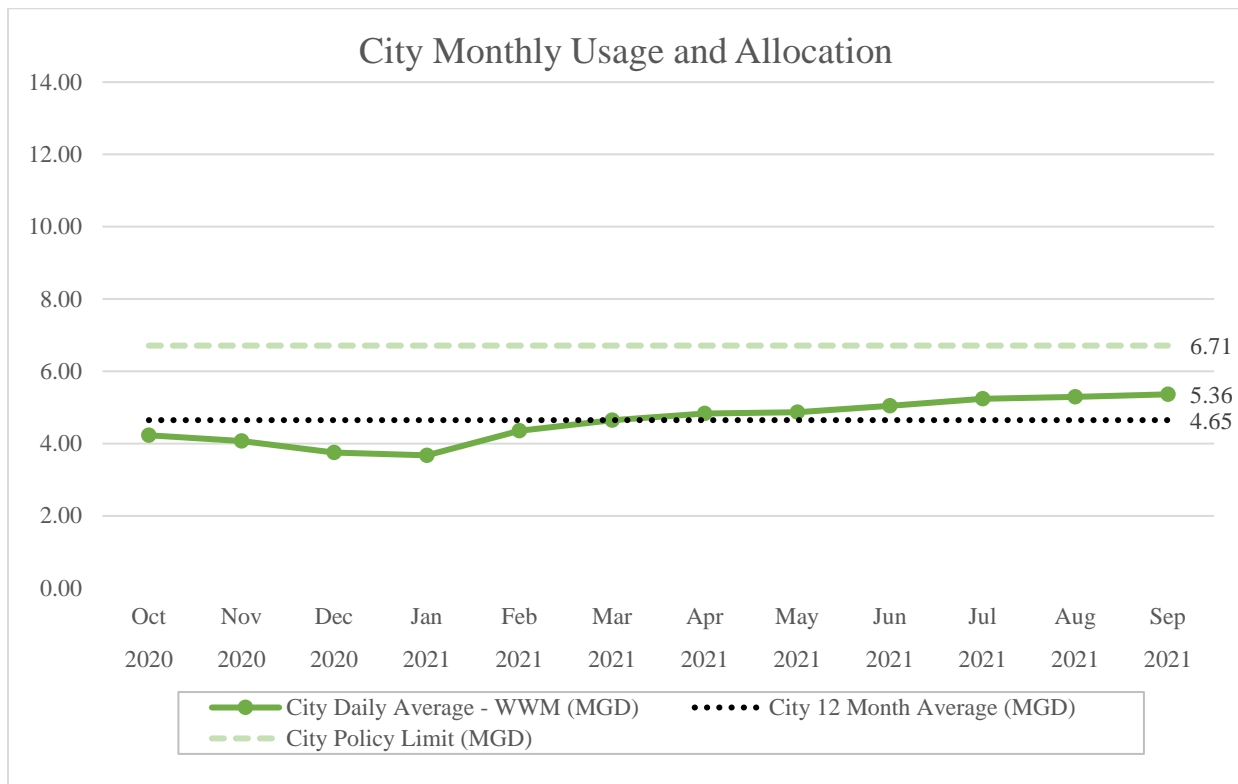
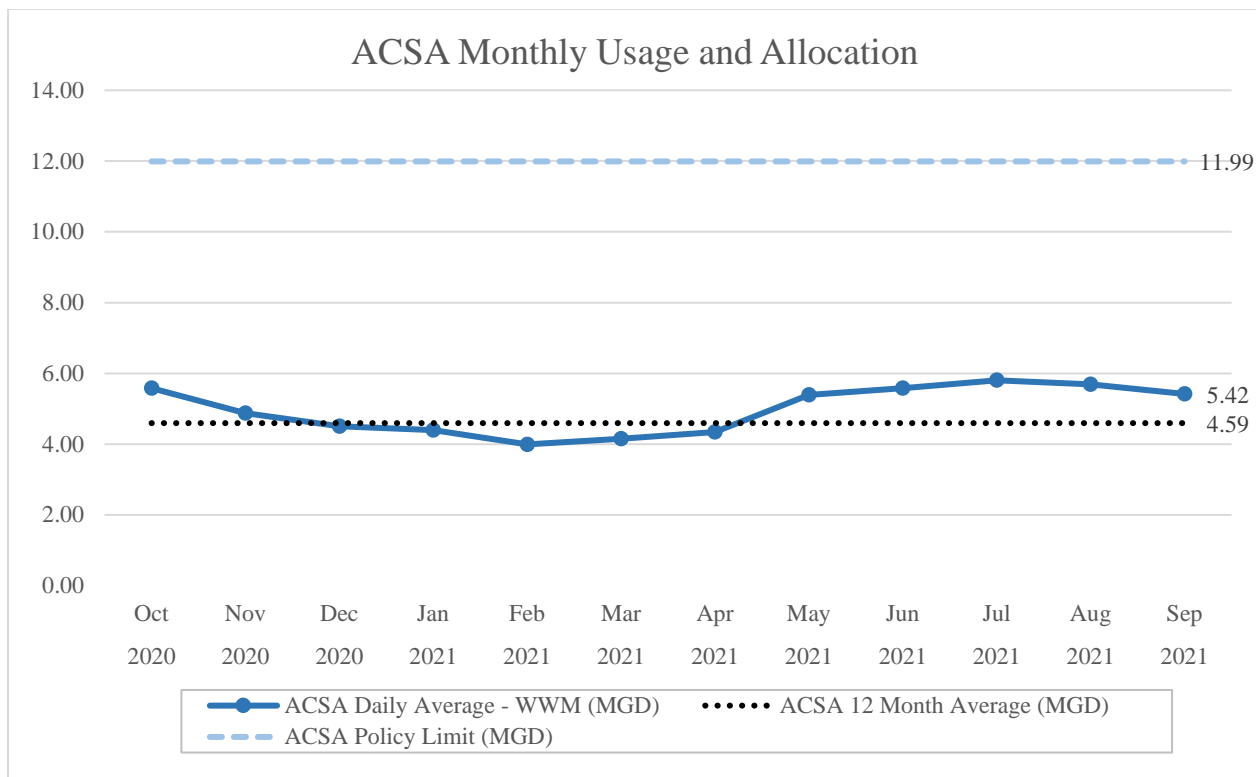




Figure 2: Albemarle County Service Authority Monthly Water Usage and Allocation






695 Moores Creek Lane | Charlottesville, Virginia 22902-9016

434.977.2970 

434.293.8858 

[www.rivanna.org](http://www.rivanna.org) 

## MEMORANDUM

**TO:** RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS

**FROM:** ANDREA BOWLES, WATER RESOURCES MANAGER

**REVIEWED BY:** JENNIFER WHITAKER, DIRECTOR OF ENGINEERING AND  
MAINTENANCE

BILL MAWYER, EXECUTIVE DIRECTOR

**SUBJECT:** DROUGHT MONITORING REPORT

**DATE:** OCTOBER 26, 2021

Staff continues to carefully monitor for indications of drought. Attached is a Drought Monitoring Report which reviews VDEQ drought status, local precipitation statistics, reservoir storage, and regional streamflows. Recent precipitation has been beneficial for streamflows and reservoirs.

The current VDEQ drought status is Normal.

**Board Action Requested:**

Provided for informational purposes only.



## Memorandum

Date: 10/19/21

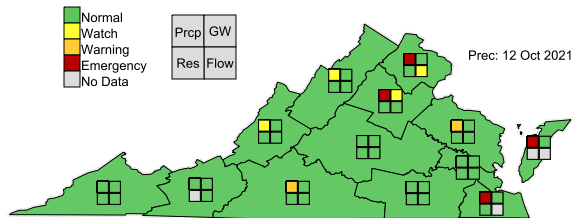
To: Bill Mawyer

From: Andrea Bowles

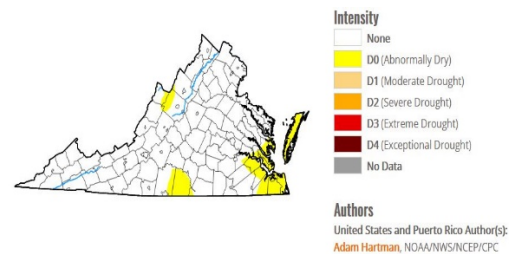
Cc: Dave Tungate; Daniel Campbell; Jennifer Whitaker; Wayne Barnes

Re: Drought Monitoring Report

## Current Status DEQ and USDA



VA DEQ Drought Status 10-12-2021



U.S. Drought Monitor 10-14-2021

The Virginia Drought Monitoring Task Force (DMTF) last met on September 24, 2021. No drought phases have been initiated, and the DEQ Drought Status and U.S. Drought Monitor indicate no drought conditions for the area. The next meeting of the DMTF is scheduled for 10-21-2021.

DEQ Current Drought status is: Normal

## Precipitation

Charlottesville Precipitation (in.)	
October to-date	0.98
October normal-to-date	2.03
Year-to-date	29.47
Normal for Year-to-date	33.93
Departure from normal	-4.46

Source: National Weather Service, National Climatic Data Center (NCDC). Daily Climatological Report for Charlottesville, VA, October 19, 2021

### Current Reservoir Status

Reservoir	Level (ft)	% Full	Useable Storage Volume (MG)	Rainfall (in)	Flow Release to River#
Sugar Hollow *	-4.93	79.66	339.4	0.00	4.7 MGD
Ragged Mountain	-3.69	86.94	1,250.41	0.0	0.03 MGD
South Rivanna	Full	100.00	884.9	0.00	Spillway Overflow
Totier Creek	Full	100.00	155	0.00	Spillway overflow
Beaver Creek	-0.51	96.38	482.85	0.00	N/A

\*Sugar Hollow Reservoir drawn down for construction. The Sugar Hollow transfer line was opened on October 7, 2021 and closed on October 18, 2021.

Urban Reservoirs useable capacity of 90.54 percent.

### USGS Gaging Stations Near Urban Area

**Rolling 7-day avg: Oct. 12 – Oct. 18, 2021**

**Median daily flow: October 18, 2021; for the periodic of record (approx. 30 - 80 years)**

Gage #	Streamflow: rolling 7- day avg		Streamflow: median daily flow	
	cfs	mgd	cfs	mgd
1	40.6	26.21	37	23.91
2*	62.5	40.40	16	10.34
3	38.6	24.92	29	18.74
4	124.4	80.37	66	42.65

- Moormans River gage flows are affected by operational changes to the Sugar Hollow bladder this period for testing. Additional releases above the minimum instream flow requirement were made.

- 02031000 Mechums River near White Hall, VA  
<https://waterdata.usgs.gov/usa/nwis/uv?02031000>
- 02032250 Moormans River near Free Union, VA  
[https://nwis.waterdata.usgs.gov/va/nwis/uv?site\\_no=02032250](https://nwis.waterdata.usgs.gov/va/nwis/uv?site_no=02032250)
- 02032640 N F Rivanna River near Earlysville, VA  
[https://waterdata.usgs.gov/va/nwis/uv/?site\\_no=02032640&PARAMeter\\_cd=00065,00060,00062](https://waterdata.usgs.gov/va/nwis/uv/?site_no=02032640&PARAMeter_cd=00065,00060,00062)
- 02032515 S F Rivanna River near Charlottesville, VA  
[https://waterdata.usgs.gov/va/nwis/uv/?site\\_no=02032515&PARAMeter\\_cd=00065,00060,62620,62614](https://waterdata.usgs.gov/va/nwis/uv/?site_no=02032515&PARAMeter_cd=00065,00060,62620,62614)

### Oasis Modeling

- RWSA has not run the drought model since early August and conditions do not indicate the need to trigger a Drought Watch at this time. Staff will continue to carefully monitor for drought.



## MEMORANDUM

**TO:** RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS

**FROM:** JENNIFER WHITAKER, DIRECTOR OF ENGINEERING AND  
MAINTENANCE

**REVIEWED BY:** BILL MAWYER, EXECUTIVE DIRECTOR

**SUBJECT:** CONSTRUCTION CONTRACT AWARD AND CAPITAL  
IMPROVEMENT PLAN AMENDMENT – AIRPORT ROAD PUMP  
STATION PROJECT – ANDERSON CONSTRUCTION, INC.

**DATE:** OCTOBER 26, 2021

This construction project was advertised for bids on September 7, 2021 (RFB No. 383). Two bids of \$8,520,312.50 and \$8,809,000 were received on October 7, 2021. Anderson Construction, Inc. from Lynchburg, VA was the apparent low bidder. After reviewing the bid documents, our design engineering consultant, SEH, determined the apparent low bidder was responsive and responsible and recommended award of the contract to Anderson Construction, Inc. Anderson Construction is currently constructing the Flow Equalization Tank Project in Crozet, and successfully completed the Finished Water Pumping Station in Crozet in 2019.

The current Capital Improvement Plan (CIP) budget for this project is \$7.6 M. Based on recent construction cost volatility, a recently updated estimate anticipated bids of \$8.6 M. Following discussions with the contractors and suppliers, we learned that ductile iron pipe pricing has tripled over the past few years as well as pricing of other project materials. In addition to the pump station, this project includes construction of approximately one mile of 24-inch water main to complete the connection between the existing 24-inch water main in Rt. 29 and the pump station.

Based on the bid prices received, SEH and staff believe the pricing provided is in accordance with the current market value for the work. Incorporating Anderson Construction, Inc's bid value of \$8,520,312.50 represents an increase to the CIP Budget of \$2.4 M and a total project budget of \$10 M, when including design and construction administration costs as well as unforeseen construction contingencies.

### Background:

The Rt. 29 Pipeline and Pump Station master plan was developed in 2007 and originally envisioned a multi-faceted project that reliably connected the North and South Rivanna pressure zones, reduced excessive operating pressures, and developed a new Airport pressure zone to serve the highest elevations near the Airport and Hollymead Town Center. The master plan was updated in 2018 to reflect the changes in the system and demands since 2007. The Airport Road Pump Station project was designed to provide a 1.5 million gallon per day pump station as a reliable and redundant finished water supply to the North Rivanna pressure zone. The proposed pump station is expandable in the future and will also facilitate the abandonment of the North Rivanna Water

Treatment Plant and become the primary source of water to the North Rivanna pressure zone.

**Board Action Requested:**

1. Authorize the Executive Director to execute a construction contract with Anderson Construction, Inc. for a total value of \$8,520,312.50 for the Airport Road Pump Station Project (RFB No. 383), and any change orders not to exceed 6% of the original contract amount.
2. Amend the FY 2022 - 2026 Capital Improvement Plan to increase the project budget by \$2.4 M to a total project budget of \$10 M.



# Wastewater Rates and Charges for FY 21-22

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PRESENTED TO THE BOARD OF DIRECTORS

BY LONNIE WOOD, DIRECTOR OF FINANCE &  
ADMINISTRATION

OCTOBER 26, 2021



# 2020 Wastewater Allocations

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In accordance with the 2014 “Wastewater Projects Cost Agreement”, RWSA was required to assess the actual wastewater flows from the City and ACSA by 2015, and every 5 years thereafter.

Our presentation in August reviewed the findings of the 2020 wastewater assessment, using metered data from 2019, which highlighted the positive efforts of the City and ACSA to reduce inflow and infiltration into the RWSA wastewater collection system.

- 41% flow reduction from the City; \$21.3 M investment in sewer pipe rehab since 2009
- 13% flow reduction from the ACSA; \$12.6 M investment in sewer pipe rehab since 2009
- 30% total system flow reduction; \$134 M investment in sewer facilities by RWSA since 2009

Flow reductions will delay costly upgrades within the collection system and Moores Creek Wastewater Treatment Plant

# Change in Wastewater Flows = Change in Charges

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Flow changes will result in a RWSA charge adjustment of \$434,000 to the City (reduction) and ACSA (increase), to be effective on October 1, 2021 for FY 2021 – 2022.

- Total estimated City Charges will be reduced from \$15.9 to \$15.5 M = 2.9% decrease
- Total estimated ACSA Charges will be increased from \$21.1 to \$21.5 M = 2.3% increase
- No change in the RWSA budget of \$38.9 M for FY 21-22

# Resolution:

## Proposed Rates and Charges for FY 21-22

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WHEREAS, the Rivanna Water and Sewer Authority Board of Directors has reviewed the proposed budget and associated wastewater rates and charges for Fiscal Year 2021-2022; and

WHEREAS, the Rivanna Water and Sewer Authority conducted a public hearing on October 26, 2021 after advertising the actual date fixed for the public hearing in the Daily Progress on October 6, October 7, and October 12, 2021;

NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer Authority hereby approves the Rate Schedule for FY 2021-2022, to be effective on October 1, 2021.

<b>Wastewater Rates &amp; Charges</b>			
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<b>Urban Area</b>			
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ACSA & City	Operating	\$ 2.517	Per 1,000 gallons
City	Debt Service	\$ 376,036	Per month
ACSA	Debt Service	\$ 337,983	Per month

<b>Glenmore</b>			
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ACSA	Operating	\$ 33,669	Per month
ACSA	Debt Service	\$ 618	Per month

<b>Scottsville</b>			
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ACSA	Operating	\$ 27,189	Per month
ACSA	Debt Service	\$ 824	Per month



# Questions?

## Actions to be Considered by the Board:

1. Conduct a Public Hearing on the proposed Rates and Charges to be effective on October 1, 2021.
2. Upon completion of the Public Hearing, a motion, second and vote to approve the Resolution will be required.

# PUBLIC NOTICE



## RIVANNA WATER & SEWER AUTHORITY PUBLIC HEARING CONCERNING THE PROPOSED WASTEWATER RATES FOR FY 2021 - 2022, EFFECTIVE OCTOBER 1, 2021

### Public Hearing:

Rivanna Water & Sewer Authority will hold a Public Hearing on Tuesday, October 26, 2021, at 2:15 p.m. during the regular Rivanna Water & Sewer Authority Board of Directors meeting. The public hearing is to consider the following wholesale wastewater rates and charges to the City of Charlottesville and the Albemarle County Service Authority. Adopted rates may or may not be what are advertised.

<b>Wastewater Rates &amp; Charges</b>			
<b>Urban Area</b>			
ACSA & City	Operating	\$ 2.517	Per 1,000 gallons
City	Debt Service	\$ 376,036	Per month
ACSA	Debt Service	\$ 337,983	Per month
<b>Glenmore</b>			
ACSA	Operating	\$ 33,669	Per month
ACSA	Debt Service	\$ 618	Per month
<b>Scottsville</b>			
ACSA	Operating	\$ 27,189	Per month
ACSA	Debt Service	\$ 824	Per month

The Rivanna Water & Sewer Authority (Rivanna) was created by the City of Charlottesville (City) and the County of Albemarle to provide wastewater treatment. The above fees represent Rivanna's fees and charges to the City and the Albemarle County Service Authority (ACSA) for these services, and are not the same as the City and ACSA charges to individual residents and businesses. Debt Service covers capital related project costs and are different for the City and ACSA reflecting terms of contractual agreements.

**The City and the ACSA collect wastewater from individual residents and businesses and charge retail rates that combine charges from the above schedule to reflect their service costs, including Rivanna's costs.**

Information about the proposed budget may be obtained on the Rivanna website at [rivanna.org](http://rivanna.org). Please call 977-2970 ext. 0 or send e-mail to [info@rivanna.org](mailto:info@rivanna.org) with any questions you may have.



695 Moores Creek Lane | Charlottesville, Virginia 22902-9016

434.977.2970  
434.293.8858  
www.rivanna.org

## RESOLUTION

### RATE SCHEDULE

WHEREAS, the Rivanna Water and Sewer Authority Board of Directors has reviewed the proposed budget and associated wastewater rates and charges for Fiscal Year 2021-2022; and

WHEREAS, the Rivanna Water and Sewer Authority conducted a public hearing on October 26, 2021 after advertising the actual date fixed for the public hearing in the Daily Progress on October 6, October 7 and October 12, 2021;

NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer Authority hereby approves the Rate Schedule for FY 2021-2022, to be effective on October 1, 2021.

<b>Wastewater Rates &amp; Charges</b>			
<b>Urban Area</b>			
ACSA & City	Operating	\$ 2.517	Per 1,000 gallons
City	Debt Service	\$ 376,036	Per month
ACSA	Debt Service	\$ 337,983	Per month
<b>Glenmore</b>			
ACSA	Operating	\$ 33,669	Per month
ACSA	Debt Service	\$ 618	Per month
<b>Scottsville</b>			
ACSA	Operating	\$ 27,189	Per month
ACSA	Debt Service	\$ 824	Per month

# Industrial Waste Pre-Treatment Program



Presented to the RWSA Board of Directors

BY: PATRICIA DEFIBAUGH, LABORATORY MANAGER

OCTOBER 26, 2021



# Purpose of the program

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- Protect the sewer system and wastewater treatment plants thru limits on industrial discharges
- Required by the Environmental Protection Agency and VA Department of Environmental Quality



# Virginia Pollutant Discharge Elimination System

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- VDEQ Requirements:
  - Implement a pretreatment program that complies with the EPA's Clean Water Act
  - Submit an annual report to VDEQ on the pretreatment program by January 31<sup>st</sup> of each year.



# Discharge limits

- Pretreatment program looks at the following constituents:

- Fats Oils and Greases (FOG)
- Metals (Manganese, Copper, Lead, heavy metals)
- Nutrients (Nitrogen and Phosphorus)
- pH (discharge must be between 6.0 and 9.0)
- Biochemical Oxygen Demand (BOD)

“Fat-berg” in a sewer



Acid Neutralization System

# Identifying Industrial Users

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- Significant Industrial User (SIU)
  - Categorical (metal finishing, semiconductor manufacturing, etc. )
  - Non-categorical (discharges more than 25,000 gal/day or has potential to adversely affect our treatment process)
- Businesses with processes that discharge pollutants of concern to the sewer system
  - Restaurants
  - Breweries, Wineries
  - Dentists
  - Dry Cleaners



# Current Industrial Permits

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- We have 3 SIUs we are monitoring in the pretreatment program:



- New permits were issued for all 3 on July 1, 2019 and will expire on June 30, 2022.
- Each industry is required to submit a semi-annual report for the periods ending in June and December of each year.

# What is a SIU?

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- Has an average flow of 25,000 gpd of process wastewater **OR**
- Contributes a process waste stream which makes up 5% or more of the average dry weather hydraulic or organic capacity of POTW **OR**
- Is subject to categorical pretreatment standards **OR**
- Has a significant impact, either singularly or in combination with other significant dischargers, on the treatment works or the quality of its effluent.



# What is new with the industrial waste program?

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- The 2020 Virginia General Assembly enacted HB586 which requires finding out how much PFAS (per and polyfluoralkyl substances) we have in our wastewater.
  - DEQ will send a Survey to Rivanna's SIU's to confirm current use or manufacture of PFAS compounds.

# Questions

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# Major Capital Projects Construction Update



Presented By:

Scott Schiller, Engineering Manager

October 26, 2021

# Recently Completed Projects



# Crozet Water Treatment Plant Expansion



- Increased capacity from 1 to 2 MGD by modernizing plant systems
- New PAC contactors, plate settlers in the sedimentation basins, chemical building expansion, backwash storage improvements and filter rebuilds
- New IP Pumps and new raw water pump and VFD added to project
- Completed July 2021
- Cost: \$8.5 M



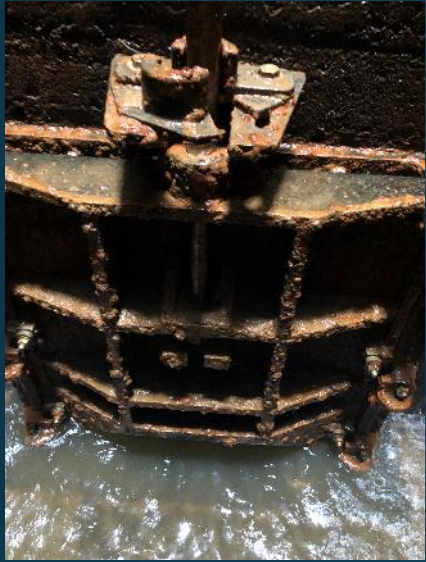


# Crozet Water Treatment Plant Expansion

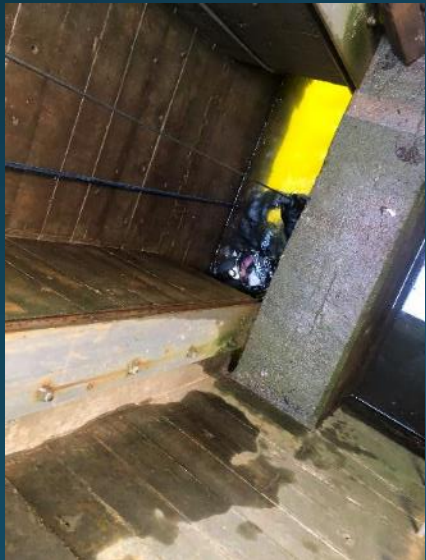




# South Rivanna Dam Gate Repairs and Safety Improvements



- Leakage past 36" mud gates on the north and south abutments
- Bander Smith inspected both gates and identified missing stem guides and actuator issues that were repaired and replaced
- Improved access to the North Tower
- Completed August 2021
- Cost: \$400K





# Sugar Hollow Rubber Crest Gate Replacement

- Replacement of rubber gate, and electrical and mechanical components
- Notice to Proceed – October 1, 2020
- Completion – Fall 2021
- Cost: \$1.7M



# Currently Under Construction



# Observatory and South Rivanna WTPs – Rehabilitation and Expansion Project



- Increases OBWTP capacity from 7.7 to 10 MGD and increases SRWTP reliability at 12 MGD
- Includes plate settlers and new chemical building at OBWTP, new Alum and Fluoride Building and 2 new filters at SRWTP
- Notice to Proceed – May 18, 2020
- Completion – March 2023
- Budget \$43M

Rivanna Water & Sewer Authority - SRWTP Rehabilitation and  
Slideshows - October



# Observatory and South Rivanna WTPs – Rehabilitation and Expansion Project





# Crozet Wastewater Flow Equalization Tank and Pumping Station Upgrade

- Store wet-weather flow to minimize impact on downstream sewer capacity
- 1 MG Capacity and improvements to existing Crozet Pump Station No. 4
- Notice to Proceed – October 9, 2020
- Completion – November 2022
- Budget \$5.4M





# MC Lighting Improvements

- Updating site lighting to improve safety and meet Albemarle County requirements
- Construction is underway with some lights to be installed by Maintenance
- Completion – February 2022
- Budget \$0.6 M

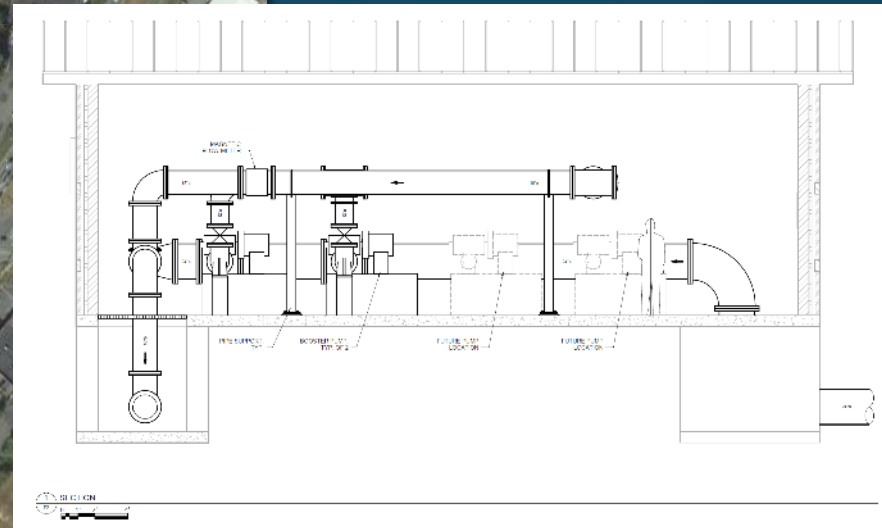




# Airport Road Pump Station and Piping



- Reliably connects Piney Mountain and Urban pressure zones
- Will feed the Piney Mountain Tank and will be part of future Airport pressure zone
- Bids opened on 10/7
- Recommendation for award in this month's Board Packet
- Completion December 2023
- Recommended Budget \$10 M





# MC Clarifiers and Lime Silo Demolition

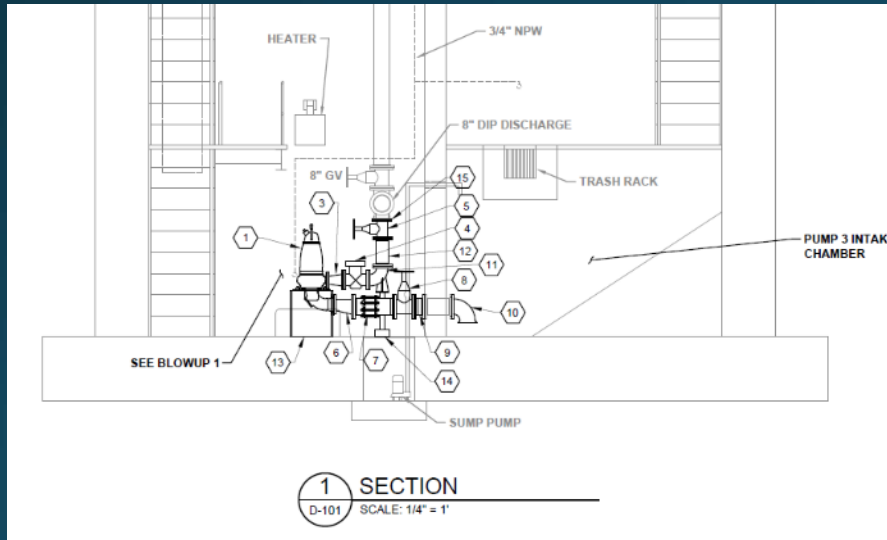
- Demo In-Plant Clarifiers (2) to remove safety concerns and create space for future plant expansion
- Remove lime silo from site and demo associated electrical enclosure
- Utility relocations to facilitate clarifier demo
- Completion – May 2022
- Budget \$790,000





# Glenmore WRRF Influent Pump and VFD Addition

- New influent pump and VFD
- New exhaust fan for the wet well
- Completion – July 2022
- Budget \$370,000



# Design Phase and Upcoming Construction Projects



# MC 5kv Electrical System Upgrade

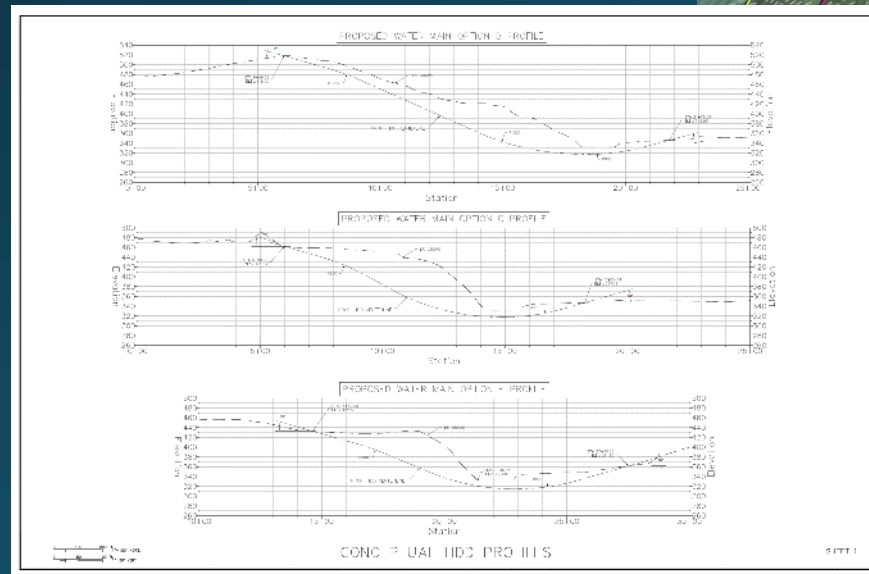
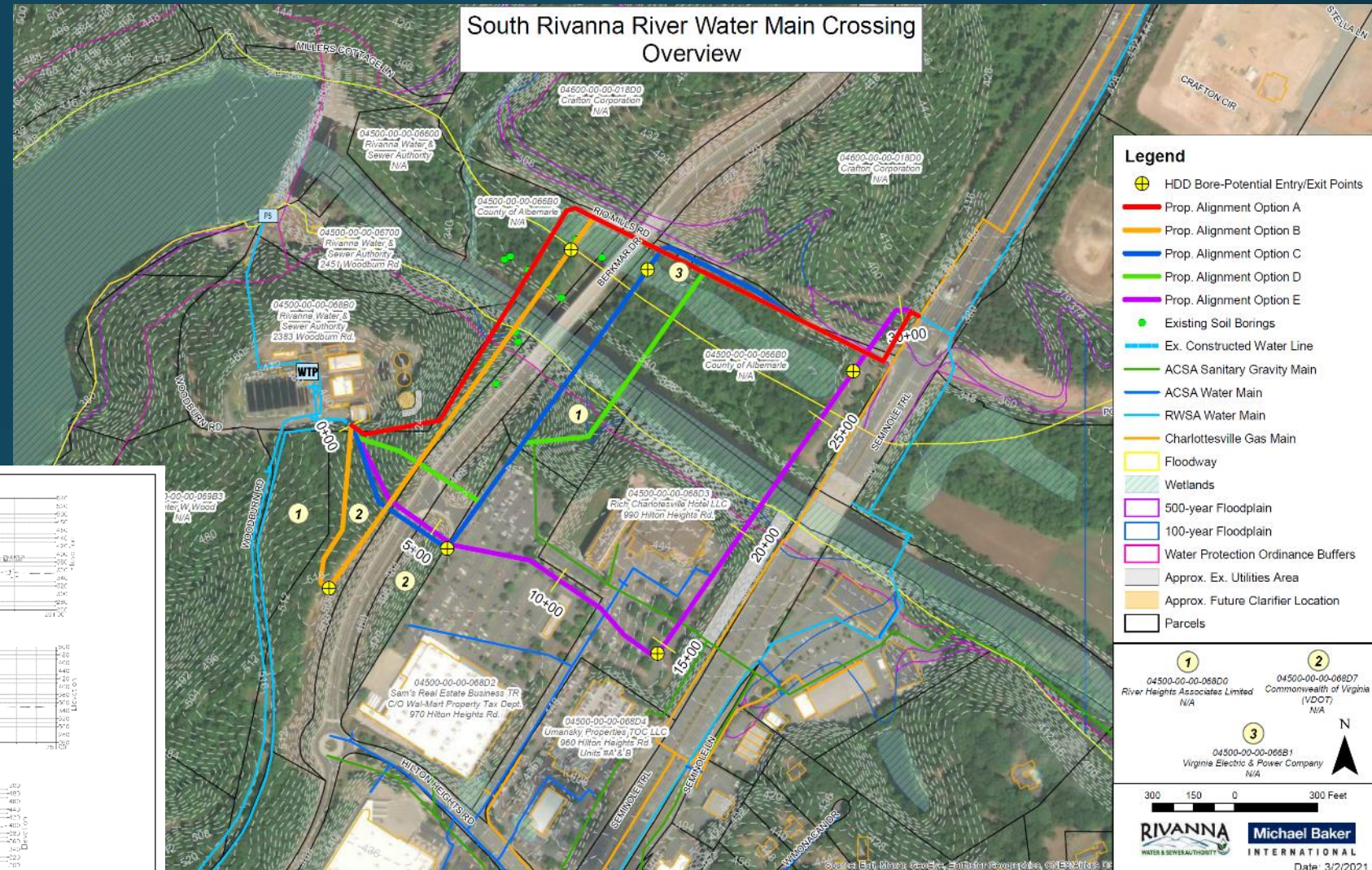
- Replacement of major electrical components that are at the end of their useful lives
- Includes MCCs, transformers, new switchgear building
- Anticipate advertising for construction bids in November
- Completion 2022 - 2024
- Budget \$5 M





# SR River Crossing & NR Transmission Main

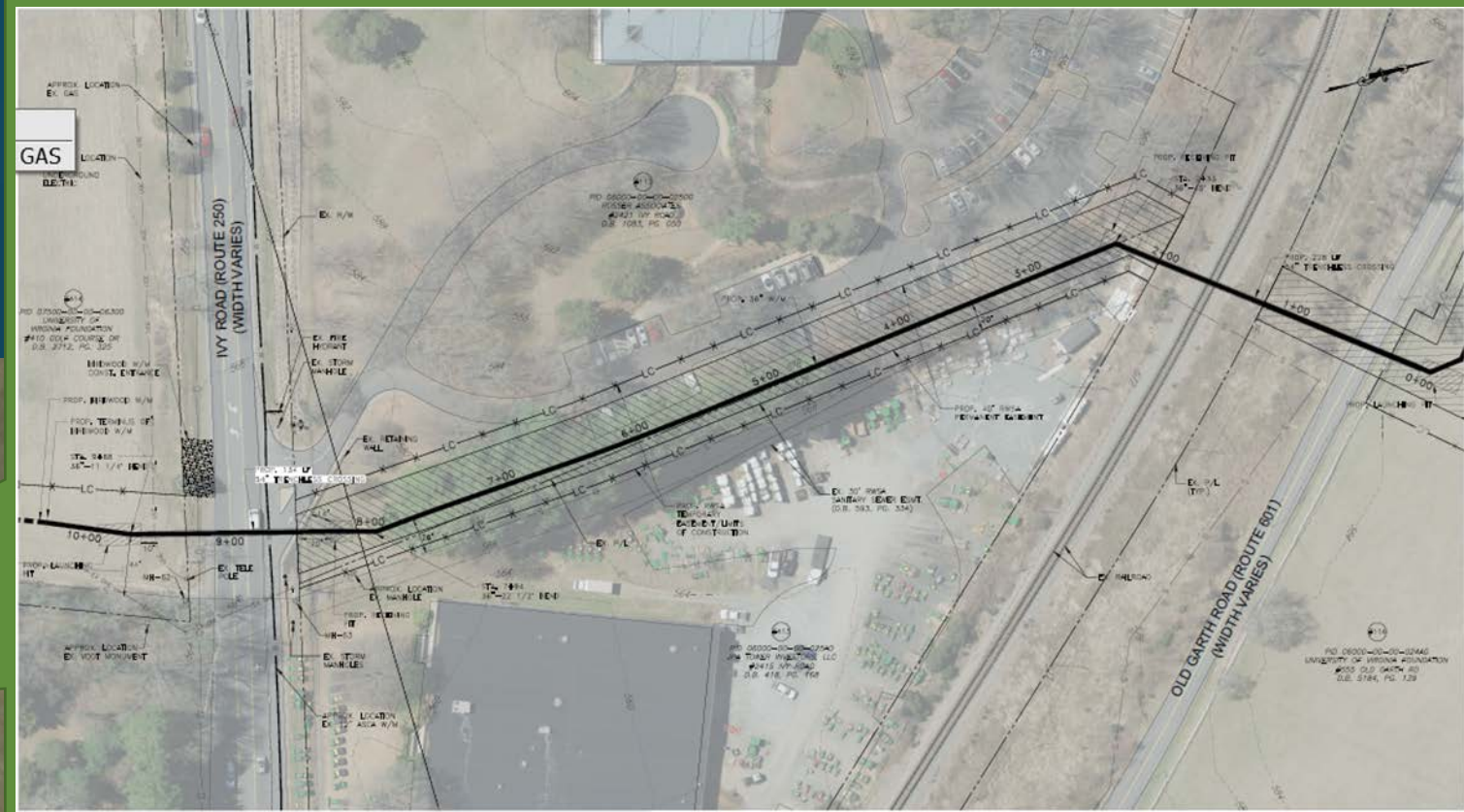
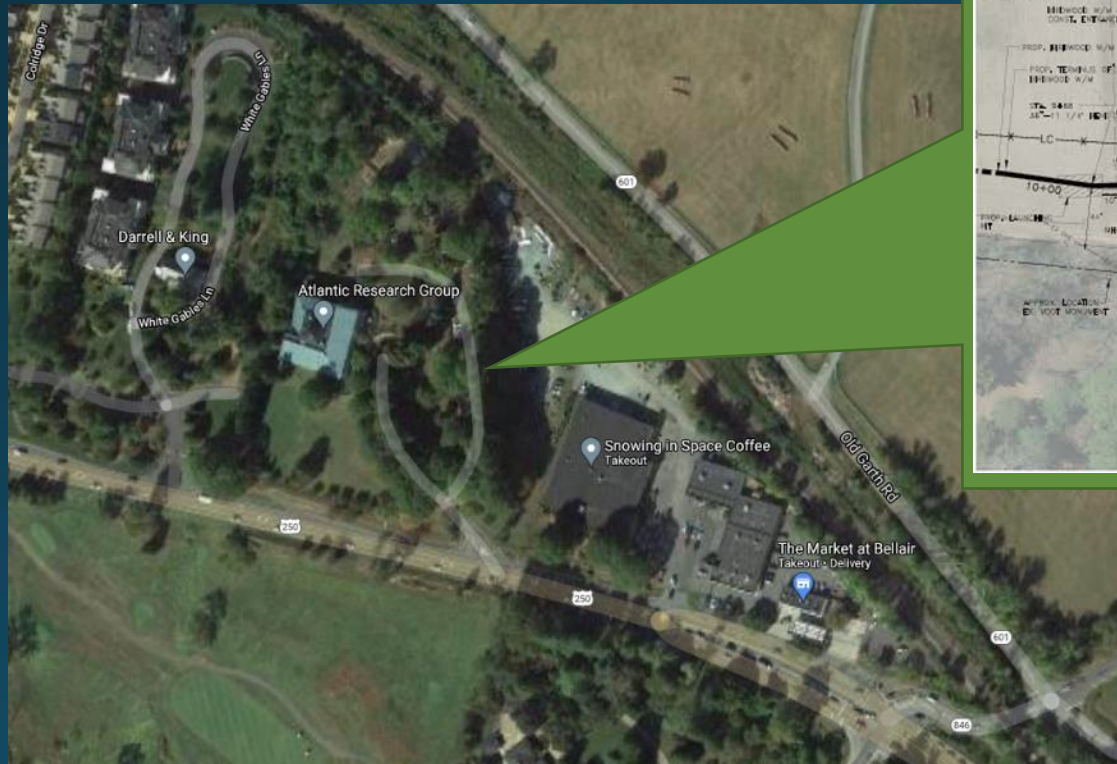
- Second crossing under the South Rivanna River
- Evaluating specific routes
- Completion 2023 - 2024
- Budget \$6 M





# SRR to RMR – Birdwood to Old Garth

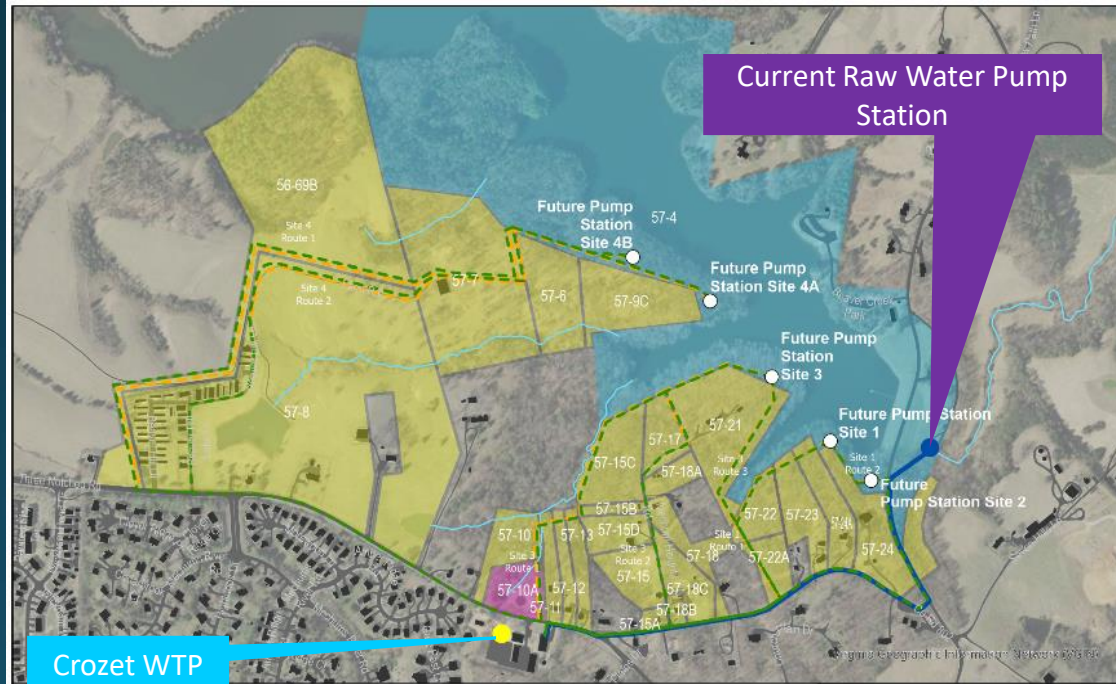
- Installation of a section of the 36" SRR to RMR transfer pipeline to precede private development and avoid costs
- Completion 2022 - 2024
- Budget \$2 M





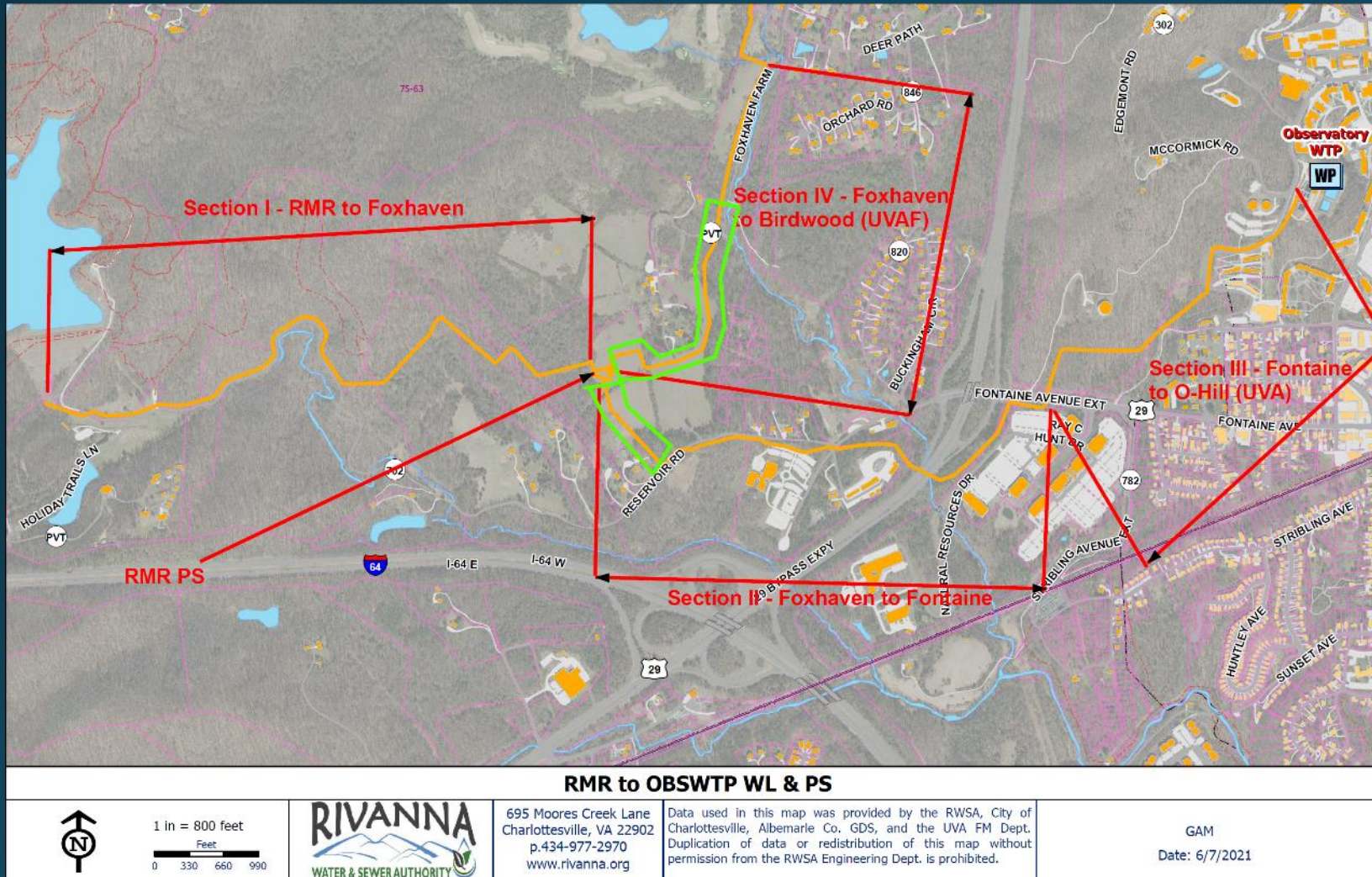
# Beaver Creek Dam, Pump Station & Piping Modifications

- Upgrade the spillway to meet DCR dam safety standards
- Replace the raw water pump station, intake, and pipe to the Crozet WTP
- Completion 2024 – 2026
- Budget \$30.9 M





# RMR to OBWTP – Pump Station and Water Line

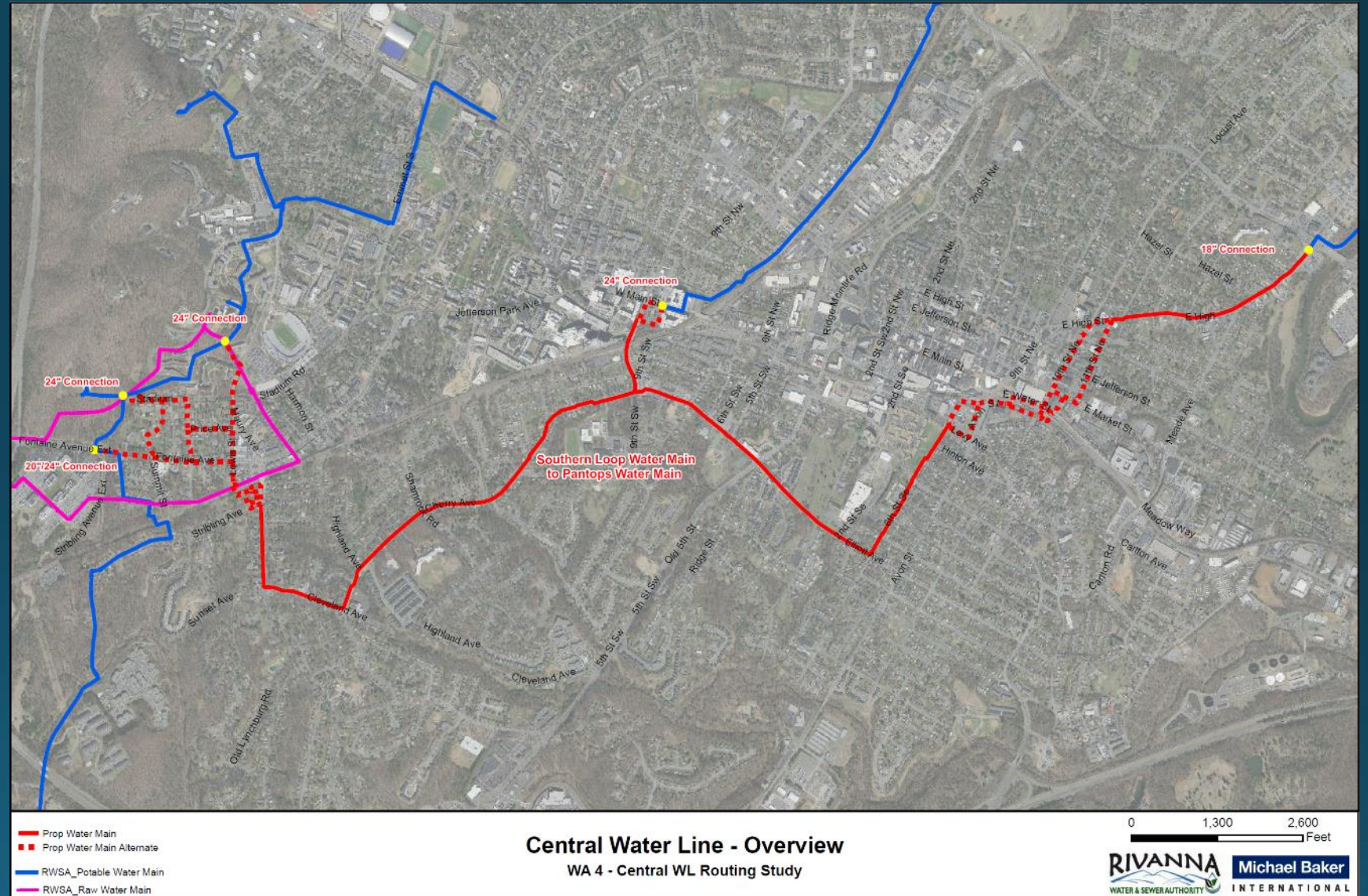


- Improves raw water conveyance capacity to OBWTP
- Replaces outdated infrastructure - 40 and 70 year old pump stations and 110 and 70 year old water lines
- Completion 2024 - 2027
- Budget \$30 M



# Central Water Line

- Improve water flow, pressure, redundancy in Urban System
- Hydraulically connect the OBWTP to our transmission mains in the center and eastern parts of the City
- Approximately 5 miles of 24-inch and 30-inch water main
- Completion 2024-2027
- Budget \$31 M



# Questions?